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General Scientific

THE DIAGNOSIS OF PYLORIC AND DUODENAL ULCER.

Harold Barclay, M. D.

CONSULTING GASTRO-ENTEROLOGIST TO THE UNITED HOSPITALS AND TO ST. MARY'S HOSPITAL, HOBOKEN, N. J.; ATTENDING PHYSICIAN KNICKERBOCKER HOSPITAL N. Y.

New York.

I present this paper with some hesitation, realizing how thoroughly the subject has been covered during the past decade. But yet the striking fact remains that, from necropsy reports, ulcer is so infrequently diagnosed during life.

Gruber (*Munch. Wed. Work*, Aug. 8, 1910), found 170 cases of peptic ulceration in 4,208 necropsies; in only 18 out of 115 actual ulcer cases had the affection been diagnosed during life.

Again, the number of undiagnosed ulcers is further demonstrated by a study of the reports of cases of perforation.

We realize to-day that duodenal ulcers (I use the term to designate ulcer situated both in the duodenum and at or around the pylorus) are of much commoner occurrence than was formerly supposed. With our increasing experience we appreciate that conditions which were formerly diagnosed as "acid gastritis" and "nervous hyperacidity" are in many instances ulcer.

In the so-called typical cases there are probably few diseases in which the symptoms appear in such a definite and well ordered sequence as in duodenal ulcer; but on the other hand there are many cases that give neither a uniform or constant clinical picture, therefore it is impossible to elaborate a symptomatology common to all cases.

While some ulcers cause no symptoms at all, in others the disturbance is so mild and transitory it is impossible to recognize the true nature of the trouble.

Stone (Miss. Valley Med. Ass'n, Oct. 12, 1909), in a review of the literature showed that about 1-3 of the perforating cases gave no symptoms suggestive of ulcer. While Soleron (*Med. Klinik*, Dec. 20, 1909), states that 1-5 of duodenal ulcers develop without symptoms.

In the diagnosis of duodenal ulcer, we have to consider four points:

(1) The Symptomatology. (2) The Physical Examination. (3) Laboratory Findings. (4) Special Tests.

Moynihan makes the very positive statement that the anamnesis is everything and the physical examination relatively nothing. While this statement is not beyond criticism, yet it emphasizes the importance of a careful history. In the history, pain is the most characteristic symptom. This may vary in character and degree between very wide limits. In the earlier cases, actual pain may be entirely absent, there being merely a feeling of discomfort or distension in the epigastrium, or a burning, gnawing, hungry sensation, relieved very often by food or soda.

In the severe cases, this pain is described as cramp-like in character, and occurs usually at a definite period after the ingestion of food, generally 2-3 hours.

This pain invariably occurs at an earlier interval on a liquid than on a solid diet and where a pyloric stenosis exists. Much stress has been laid by modern writers on the so-called hunger pains which occur, generally preceding the following meal. Such pains are probably caused by traction or a tender or adherent duodenum as the pylorus moves to the left during the emptying of the stomach. Or to the presence of a continuous secretion of an acid gastric juice—fasting hypersecretion. This latter is a valuable sign but not pathognomonic. These must be distinguished from the hunger pains frequently met in cases of splanthnoptosis. In certain cases I have noted that the symptom of gas has been so pronounced as to more or less obscure or obliterate all other symptoms.

This is well illustrated by the following case:

G. N., 57 years o age. Previous history was uneventful. Gastro-intestinal history dates back ten years, when the patient began suffering with attacks of gas, coming after meals, lasting for three or four weeks at a time, then gradually subsiding. He would sometimes wake up early in the morning with a feeling of distress in the upper abdomen, but, if he could raise gas, he would obtain immediate relief. There has been no nausea or vomiting, or any particular pain or discomfort, other than that caused by the constant annoyance of raising gas.

He was treated five years ago by gymnastic exercises, and put on 30 lbs. weight, and, for over a year, was free from all symptoms. The bowels had been inclined to constipation for seven years. There never had been any history of jaundice of clayey stools. The physical examination was absolutely negative. The fasting stomach was empty—a test breakfast was normal, save for a very moderate degree of hyperacidity. From this history, and from the lack of any definite physical signs, and from the fact that patient was a man that had worked had for a number of years, I made a diagnosis of gastric atony, and advised him to take a vacation and improve his general nutrition. The patient did so, and was, for a while, much improved. He returned to me some six months later, stating that he had been impressed by the dark tarry character of his stools. I requested him to send me a specimen of his feces, and, on examiantion, was surprised to find a marked trace of blood. My suspicions then became aroused as to the real nature of his troubles. He was put on Lenhartz's ulcer cure, which was carried out very thoroughly for a period of six weeks. He was then again free from all symptoms for nearly two months. A recurrence of the symptom of gas and again of stools that contained traces of blood, lead me to advise him to a surgical operation. This was done by Dr. Erdman, and a duodenal ulcer, which involved approximately two-thirds of the circumference of the bowel, was found.

Here was a case in which it would seem that one could not have made a diagnosis of ulcer had it not been for the fact that the patient's condition was attracted by the character of his stools, for at no time had the symptoms or physical findings been such as to warrant such a diagnosis, in my estimation.

Pyrosis, or heartburn, although frequently encountered is of no diagnostic significance, as it is met with in various gastric disturbances. Likewise salivation; this symptom being not infrequently encountered, in cases where the stomach contains a high acid index. It would appear that it was one of nature's compensatory processes to try and neutralize the high acidity. Nausea and vomiting are infrequent symptoms, save in the severe cases or where a pyloric stenosis exists. Vomiting is not uncommonly induced by the patients to obtain relief from their suffering. It is in no way characteristic of ulcer.

Hemorrhage.—Until recently hemorrhage has been considered the great *sine qua non* in the diagnosis of ulcer. To-day it is realized that hemorrhage is not a symptom, but often only a late manifestation of the disease, and is demonstrable in about a third of the cases. In my series of 43 cases melaena was present thirteen times, haematomosis once.

The question as to the source of the blood in haematemesis or melaena is often not easy to decide, especially where the pain history is absent. I can possibly best illustrate this by citing three or four personal experiences, which I shall do as briefly as possible:

M. M., aet. 57, was first seen in April, 1909. At that time she was complaining of severe distressing burning pain coming in the epigastrium between two and three hours after meals—as a rule relieved by soda, and often by food. There had been no nausea or vomiting, or any previous history of melaena or haematemesis. There had never been any history of jaundice. Examination of the stomach contents showed a marked hyperacidity. Physical examination was negative, save for moderate tenderness in the median line, about 2 inches below the xiphoid. I made a tentative diagnosis of gastric ulcer.

Five weeks from the date of my first seeing the patient I was called to her apartment, where she informed me that she had been violently nauseated a few hours previous to my arrival, and had suddenly vomited, at first some food remains, and, later, a large quantity of dark clotted blood. I at once felt that this confirmed my previous diagnosis, and put her on an ulcer cure. Within a few days the symptoms of pain and hyperacidity began gradually to disappear, and the patient went through her cure in a most uneventful manner.

During the summer of 1909, about two months after I had discharged her, I was called to her home in the country where the patient informed me that she had had a return of her pains, though they had been of a slightly different character.

I noted at that time a moderate degree of icterus, and at that time the gall bladder was distinctly palpable. She convalesced from this attack, but it was shortly followed by two other attacks, more severe in character.

The presence of jaundice, and the palpable gall bladder, made me exceedingly suspicious of the presence of gall stones, and, after a third attack, I advised an exploratory operation. This was made by Dr. W. A. Downes, and seven large calculi were removed from the gall bladder. Stomach and duodenum were carefully explored at the time, and no evidence of ulcer was found.

I saw a similar case in a medical man, where the hemorrhage was so severe that transfusion was resorted to in order to save life, and where operation showed only a cholelithiasis and a chronic appendix.

A third case, a man 35 years old, gave an exceedingly typical history of ulcer pains. He had vomited on several occasions, and had each time noticed dark particles, which he described as resembling "chunks of liver."

A doctor, some few weeks previous to my first seeing him, had examined the stools, and reported the presence of occult blood. With such a straightforward history of both pain, haematemesis and melaena, and the absence of any other physical findings, I made a diagnosis of gastric ulcer, and suggested operative measures. Laparotomy was performed by Dr. Dowd, and again stomach and duodenum were found to be normal. An incision over the appendix revealed a chronic obliterating appendix bound down with numerous adhesions. He made an uneventful recovery, and has been free from all subsequent symptoms.

The last case is, to me, an exceedingly interesting one, because of the continuous presence of blood in the faeces, the long history of gastric distress and the marked emaciation lead me to believe malignant degeneration had been grafted on an old ulcer. I saw the patient late in April, 1906—Dr. Blake consented to make an exploratory incision, and, on opening the upper portion of the abdomen there was no evidence of any lesion. He then decided to open the stomach, and, on exposing the mucous membrane, which was atrophic in character, there was a slight oozing of blood all over the major portion of the pyloric half of the stomach, although it was impossible to detect any gross abrasion of the mucous surface. The wounds were closed, and, after convalescence from the surgical condition, the patient was put on full nutritious diet. Traces of blood could be found from time to time in the faeces for over a year, but, after a prolonged period of rest in bed, she gradually began to gain weight, with a subsidence of

gastric symptoms, and when seen within the past year was doing comparatively well. Exploration failed to reveal any lesion in the gall bladder, appendix, stomach or intestines, and the stomach examination never showed any evidence of erosions.

These cases have made me feel that one must exercise a certain degree of caution in interpreting the cause of the bleeding, even in cases that at first sight seem very typical and plain.

It is needless for me to refer to those cases of haematemesis due to the rupture of an oesophageal varix with a cirrhosis of the liver, such cases are, as a rule, not associated with any very definite gastro-intestinal history, and physical examination in a great majority of them reveals the true nature of their trouble. Although I have quite recently seen a case associated with gastric haematemesis, where the history and the physical examination revealed nothing relative to the liver, and yet an exploratory examination showed a moderately advanced cirrhosis.

Unfortunately we have as yet no reliable test to determine the functionating power of the liver, and it not infrequently happens that haematemesis is the first symptom that calls our attention to its condition.

Tests of Liver Function.—Strauss states that concontinued research and further experience have confirmed in every particular his assertions twelve years ago in regard to the importance of alimentary levulosuria as a sign of defective functioning of the liver. Galactose is also suited for the test, but the dose best adapted for the purpose seems to be 30 gm., while the proper dose of levulose is 100 gm. Each test is made in the morning on the fasting stomach and the elimination in the next six hours is the criterion. He gives tables showing the findings of the test at a number of different clinics. In 127 cases of cirrhosis of the liver the levulose test gave positive findings in 33 per cent.; in 70 per cent., of 27 cases of catarrhal jaundice; in 62.5 per cent. of 32 cases of jaundice from obstruction of the common bile duct; in 75 per cent. of twelve cases of jaundice from syphilitic lesions, and in 38 per cent. of 42 cases of tumors. On the other hand, the findings were positive only in 14.8 per cent. of 175 cases in which the liver was presumably sound. The galactose test, on the other hand, seems to be more sensitive in cases of functional disturbance of the liver, of nervous origin. The latter test has not yet been applied with uniform technic in a sufficient number of cases for a true estimate of its value.—(*Deutsch, Med. Woch,,* Sept 11, 1913.)

Pancreatitis.—Herschell, points out the fact that in the early stages of duodenal ulcer there are in many cases distinct evidence of irritation of the pancreas. Such a pancreatitis unaccompanied by jaundice is most commonly due to an extension of a duodenal catarrh along the pancreatic ducts, and, in consequence, implies a source of irritation in the duodenum.

Cases presenting the characteristic pains, coming at definite intervals, with the recognition of a pancreatitis, would be strong presumptive evidence in favor of the diagnosis of ulcer, in contradistinction to a functional disturbance.

Emaciation.—Albu calls attention to the symptom of emaciation in duodenal ulcer which occurs in a relatively short time, and is such as seen otherwise only with malignant neoplasms.

Physical Examination.—The physical examination of the patient is, as a rule, exceedingly unsatisfactory, as, in a large number of cases, examination of the abdomen reveals no abnormal condition. Occasionally there is some epigastric tenderness in the median line, or just to the right of the median line, in the region of the pylorus. This pain point is more apt to be present two or three hours after food than immediately after eating.

When the patient is actually suffering pain I have noticed in a few cases, the right epigastric reflex was accentuated.

Boas found a dorsal pain point present in about a third of his cases—I have met it only once in 43 cases, when an operation showed the ulcer to be situated in the pyloric region, on the posterior wall of the stomach, which was adherent to the pancreas.

I believe that in all cases of chronic stomach disorder an examination of the gastric contents ought to be made; this should include both the fasting stomach and the stomach after a test meal.

My rule is to give the patient a roast beef sandwich and a glass of water on retiring, together with a few raisins, and explore the fasting stomach on the following morning, after a fast of from eleven to twelve hours.

From observations made on some 2,000 cases, I have come to the following conclusion, that the normal stomach empties itself from within four to seven hours after an ordinary meal, that food residue found after this time is indicative of a disturbed motility. Where food remnants, especially meat fibre, are found after eleven or twelve hours, together with the presence of sarcinae, it is almost pathognomonic of a stenosis. This is especially conclusive if two or more tests give the same finding. Although pylorospasm will delay the emptying time of the stomach, I have never seen the presence of food remains after twelve hours, except in those cases where a stenosis existed.

In my series of 43 cases a well marked motor disturbance was found in 71 per cent.

The test breakfast showed a total acidity varying from

90-124 in 19 cases
60-90 " 14 "
40-60 " 8 "
Below 20 in 2.

In other words, there was a well marked hyperacidity in about three-quarters of them.

Einhorn's string test, I believe to be of much value—Finscheimer found it positive in 85 per cent. of his 1,000 cases of gastric ulcer, and H. Strauss recommends it as an aid in our diagnostic evidence. My personal experience is not sufficient to speak with any degree of authority. It would seem that if the test were positive, it should be repeated two or more times, and the stain should occur at the same relative distance from the dental arcade.

Boehninger's test for the tolerance of hydrochloric acid in the stomach is, I think, of doubtful value.

Hertz of London, in his experiments on the sensibility of the alimentary canal, introduced 4 oz. of a 5 per cent. solution of hydrochloric acid in the empty stomach in six cases of gastric ulcer, in which the diagnosis was confirmed by operation, and found that it produced absolutely no pain.

Urine and Feces.—The examination of urine and feces should be made in all cases, as a routine measure. The feces should not only be examined for occult blood, but sterco-bilin, the amount of total saponified and un-

saponified fats, the result of the casein digestion (for pancreatic insufficiency, microscopically) Schmidt's fermentation test, and presence in excess of meat fibre, free starch and triple phosphate crystals.

In the urine, in addition to the ordinary reactions for albumen, etc., we must examine for indican, bile, urobilin, sugar and crystals of cale, oxylate, with perhaps the addition of Cammadge's pancreatic reaction.

X-ray.—In making a diagnosis of duodenal or pyloric ulcer, an *x*-ray examination is often of the greatest assistance. This is especially true in ulcers situated in the duodenum. There are three different methods:

1. The continuous adhesion of a bismuth spot.
2. The "symptoms complices" of the continental workers which relies more on studying the functions of the stomach and intestines than upon the actual demonstration of the ulcer.
3. Serial radiography, by means of which an induration or cicatricial contraction accompanying induration, with consequent deformity of the duodenal cap can be recognized to a remarkable degree.

This latter method has been largely developed by Dr. L. G. Cole of this city, and in the writer's estimation has proved by far the most satisfactory.

Perforation.—Perforation is not a very rare complication of duoenal ulcer, and one is sometimes asked if there are any signs or symptoms which might enable the clinician to anticipate this event.

It is interesting to note, from a statistical complication of cases of perforated gastric and duodenal ulcer, that duodenal ulcer has a twofold greater tendency to perforate than gastric.

Struthers (*Edinburgh Med. Jour.*—IX, 1912), says that in 27 personal cases there were no signs or symptoms of imminent perforation.

Wittersband, Gane and Goldstucke, in an exhaustive review on perforation of gastric and duodenal ulcers (*Deutsche Zeits, fur Chir.*, March, 1913) also states that, although the large majority of their cases gave a long standing history of ulcer symptoms, there was nothing whereby one could foretell such a possibility.

In two personal cases, perforation was proceeded by a period of 24 and 40 hours respectively, of intense epigastric pains, without any haematemesis or melaena prior to any evidence of perforation.

It is outside the scope of this paper to enter exhaustively into the subject of differential diagnosis of ulcer—the conditions, however, primarily to be borne in mind are cholelithiasis and chronic appendix. Diseases of the pancreas, colitis, nephrolithiasis and neurosis are more easily distinguished, and do not so often enter into consideration.

The greatest difficulty, in a differential diagnosis, lies between ulcer and chronic appendix.

In 49 operative cases of chronic appendix, 17 of them, or 60 per cent., gave a history of a distressing pain, localized in the epigastrium, coming at intervals of from one to three hours after meals. This pain, in the large majority of patients, was not relieved by food, and very seldom by soda. I bring this point out because I feel it is of some importance in a differential diagnosis, where there are no focal signs to guide one.

Hertz speaks very enthusiastically of the value of Bastedo's sign as an aid in diagnosing chronic appendix without any focal symptoms. I have used it in three cases, and was able to elicit fairly definite tenderness over the appendix, after inflation of the colon. Two of these cases were subsequently operated upon, and a chronic appendix was found.

There are, nevertheless, many cases, notwithstanding a most painstaking history and a most thorough physical examination, in which a positive differential diagnosis between a chronic appendix and a duodenal ulcer is impossible, and I always feel that one should be very guarded in the diagnosis between these two conditions, in the absence of a definite history, or some positive focal signs.

68 E. 56th St.

NON-MEDICAL ANESTHETISTS AND THE LAW.

By Lawrence Irwell, M. A., B. C. L.
Buffalo, N. Y.

The law of the State of New York provides that the practice of medicine and surgery shall be limited to those persons who have received a complete medical education. It permits dentists to do oral surgery and to practise dentistry; it allows osteopaths to rub and manipulate the bodies of their patients, and it has granted to those who have received a suitable education the right to act as trained nurses and to call themselves registered nurses. The full practice of medicine and surgery in New York State—and in most other states—is restricted by statute to men and women who have obtained the degree of M. D. and who, in addition have complied with certain regulations named in the law. Upon the other hand, in Germany and in England *any person* may practice medicine or surgery, but unless he is a properly qualified and registered practitioner, he can neither give a death certificate nor collect fees by legal process. If he is not registered and indicates by any method that he is a qualified practitioner, he is guilty of fraud and is liable to be prosecuted criminally. The law of the two European countries referred to has stood the test of time and works well. Our law does not work well, and illegal medical practitioners, some of whom make large incomes, are very numerous. The chief reason for the failure of our law is the extreme difficulty of defining accurately what constitutes the practice of medicine and surgery. A minor reason is that some physicians approve of and connive at the practice of medicine by nurses and others. For example, nurses are employed by the Health Bureau of New York City to inspect school children and to *diagnose* any disease from which any child may be suffering; nurses are employed in some factories and department stores to care for employes and customers these nurses often prescribe medicines; and nurses are used by some surgeons and some obstetricians to administer general anesthetics for surgical operations and in cases of child-birth, in the course of which they *treat* the patient and usually *prescribe* the quantity of anesthetic by regulation of the amount given. On the face of these facts, the procedure in all the instances named would appear to be a violation of the law defining the practice of medicine, which I am about to quote. But, although it appears evident that the legislature never intended to grant to nurses the right to do any of the acts in question, legal opinions as to whether these acts constitute the practice of medicine or not differ widely, and in some cities clever devices have been resorted to which would, in any event, make impossible a conviction by a jury of any nurse for practicing medicine, although she may *diagnose, prescribe* and *treat* pa-

tients by order of a licensed physician every day in the year.

The practice of medicine in New York State is regulated by section 7 of chapter 344 of the laws of 1907, which section provides that:

"A person practices medicine within the meaning of this act who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity, or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

Subdivision 1 of section 1752 of the penal law prohibits persons other than licensed physicians or surgeons from having anesthetic substances capable of producing unconsciousness in their possession, but it makes an exception in favor of any person who has such substance in his possession with intent to administer it to another by direction of a duly licensed physician. This subdivision is so worded that it only prohibits the possession of substances capable of producing unconsciousness to persons who intend to administer the same to another without the consent of the latter. It does not give authority to a physician to authorize any other person to administer any general anesthetic, but it does enable a physician to order any person to buy or otherwise procure any anesthetic. The subdivision in full says that:

"A person other than a duly licensed physician or surgeon engaged in the lawful practice of his profession, who has in his possession any narcotic or anesthetic substance, compound, or preparation, capable of producing stupor or unconsciousness, with intent to administer the same or cause the same to be administered to another, without the latter's consent, unless by direction of a duly licensed physician, is guilty of a felony, punishable by imprisonment in the State prison for not more than ten years."

This clause in the penal law has very little bearing on the subject under discussion. Had I omitted to refer to it, however, certain not over-scrupulous gentlemen who find it profitable systematically to employ a non-medical anesthetist would probably assert that I was ignorant of the existence of the above provision.

The New York State Journal of Medicine of December, 1911, contains the opinion of Mr. James Taylor Lewis* that the law (of New York State) "does not authorize her (a nurse) to take part in so important, indeed in so vital a procedure incident to surgical work" as the administration of general anesthetics. He adds these words: "I believe that nurses doing that (administering general anesthetics) are within the pale of law." The meaning of this opinion is quite clear, but Mr. Lewis' wording of it is most unfortunate. He says "within the pale of law" when he means *without* the pale of the law. In answer to a letter from me, however, he not only made plain his view that the administration of general anesthetics is unlawful, but he added a statement which I consider strictly accurate, viz.: that the administration of general anesthetics incident to surgical operations by non-medical persons "is a menace to the public health." (Letter dated Feby. 29, 1912).

Before me is a letter from the late Dr. A. T. Bristow, of Brooklyn, a prominent surgeon, who died recently as the result of blood-poisoning, in which he informed me that the counsel of the New York Hospital, of New York City had given an opinion that the employment of a nurse as anesthetist "was illegal." Dr. Bristow added: "I am personally absolutely opposed to the use of the nurse as anesthetist. It is quite foolish to assume that she is under the direction of the surgeon. It is quite evident to any thoughtful person that a surgeon cannot operate and supervise the anesthetic, and any claim to the contrary is nothing more than a subterfuge." (Letter dated October 9, 1912.)

The New York Medical Journal for May 11, 1912, contains an article entitled "The Liability of Physicians for Accidents Occurring During Anesthesia," by Mr. Almuth C. Vandiver, counsel of New York County Medical Society, the latter part of which refers to the administration of general anesthetics by nurses. The practice of registered nurses is regulated by chapter 293 of the laws of 1903, in effect April 27, 1903. Nothing in this statute requires the training of nurses in the administration of general anesthetics, and section 206 specifically provides that "nothing contained in this act shall be considered as conferring any authority to practice medicine or to undertake the treatment or cure of disease in violation of article 8 of this chapter." Article 8 has reference to the clause in the public health law defining the practice of medicine which has already been quoted. Mr. Vandiver says that "in the absence of any express authorization in the statute permitting nurses to administer anesthesia, it does not seem that instruction in "surgical nursing with operative technique" nor examination in "surgical nursing including gynecology," would sufficiently fit any trained nurse for the responsibility devolving upon anesthetists." The forms of instruction named by Mr. Vandiver are specifically required by the law creating the *status* of registered nurse. Mr. Vandiver continues: "Assuming that the administration of anesthesia is a part of the practice of medicine, it would seem that the legislature, in passing section 206, providing that nothing in the act should be considered as conferring any authority to practice medicine, did not intend to grant to trained registered nurses any authority to exercise any of the functions of duly licensed physicians. Finally it may be said that in the opinion of the writer (Mr. Vandiver), anesthesia should be administered only by registered physicians, and the consent of the patient in all instances should be obtained for the administration of the anesthesia. The delegation of the function of the administration of anesthesia to trained nurses, in the opinion of the writer (Mr. Vandiver) should be deprecated and discouraged."

The reader is asked to take note of the fact that Mr. Vandiver does not assert that the administration of a general anesthetic by a registered nurse in the presence of and by direction of a licensed physician is unlawful. He does indicate very clearly that the legislature, in passing the law creating the condition of registered nurse, did not intend to give to nurses the right to administer general anesthetics.

Mr. Wesley C. Dudley is the district attorney of Erie county. During an interview with him in May, 1912, I made plain to him the self-evident fact that no surgeon can properly perform a surgical operation requiring the employment of a general anesthetic and at the same time watch and instruct the person who administers the anesthetic. In actual practice, surgeons pay no more attention to their anesthetist in the course of regular operations in hospitals than if the anesthetist were not in the room. The latter observes the pa-

*Counsel of N. Y. State Medical Society.

tient's heart action, respiration and condition of the pupils; the latter decides when drugs, if any, are necessary during the operation. Although the district attorney of Erie County was well aware of these facts, he wrote to me (on October 9, 1912) the following words: "Under the present statutes, I am of the opinion that a graduate practicing nurse acting in the presence of a regular and practicing physician, does not come within the definition of practicing medicine." Mr. Dudley's opinion, if I understood correctly what he said to me *viva voce*, was that *any act* which a registered nurse performs in the presence of a licensed physcian is lawful. His view was that a nurse does not practice medicine in the legal sense when obeying the orders of a physician, provided that physician is present. If this is good law, which I emphatically deny, any nurse can lawfully perform surgical operations in the presence of a surgeon, assuming that the surgeon tells her what to do. As there is nothing in our law which authorizes a physician to delegate his right to practice to another person, I find difficulty in appreciating Mr. Dudley's opinion. Moreover, according to a report in the New York *Times* of February 7, 1913, the New York Court of Special Sessions the previous day, by unanimous opinion, convicted Otto Scholtz, a chiropractitioner, of practicing medicine without a license, "despite the fact that it was shown that he acted in his treatment under the direction of and at the prescription of a regularly licensed and registered physician." The physician, however, may not have been present, and the counsel of the accused announced that an appeal would be taken. Nevertheless, the decision indicates that a physician possesses no legal authority to pass on to some other individual his right to give medical or surgical treatment.

I now come to the most extreme opinion of all those in my possession, viz: that of Mr. Ansley Wilcox, counsel of Buffalo General Hospital. In order to avoid doing Mr. Wilcox any injustice, I quote his words. The reader will understand that, as Mr. Wilcox's opinion refers to the administration of general anesthetics by nurses for surgical operations, the words "administer anesthetics" when used by him mean general, not local anesthetics.

"April 27, 1912.

"I am quite clear that the administration of an anesthetic by a skilled nurse during a surgical operation, in the presence of the operating surgeon, is not the practice of medicine under our New York statute, and is not unlawful. * * * Nurses are always allowed and required to administer anesthetics and medicines under the direction of medical practitioners, and even in the absence of the doctor or surgeon, and they are often and necessarily given discretion as to the amount and frequency. * * * The giving of an anesthetic in the surgical operating room and under the immediate direction of the surgeon, is clearly within the province of a nurse, if properly skilled. It is simply a question whether the administrator of the anesthetic is properly skilled."

Mr. Wilcox's assertion that nurses are *always* allowed to administer anesthetics, even in the absence of the doctor or surgeon is very far from correct; out of more than twenty medical men with whom I have talked, I have only found two who approve of the administration of any general anesthetic by nurses, and both of these strongly disapprove of the administration of any general anesthetic by a nurse in the absence of a physician, if this occurs. It may occur at the Buffalo General Hospital, of which Mr. Wilcox is honorary counsel, but I very much doubt it because, although Mr. Wilcox says that nurses are "always allowed" to administer anesthetics I know that a rule exists at the hospital in question which provides that all ordinary hospital patients must be anesthetized by licensed physicians. The reason for this rule is that in case of the death on the operating table of an ordinary hospital patient who had been anesthetized by a non-medical anesthetist that patient's relatives could bring suit for damages—probably with success—against the trustees of the hospital on the ground of negligence. The Buffalo General Hospital permits a surgeon to employ a nurse to anesthetize his private patients, probably because the view is taken that a private patient's contract is with his own physician or surgeon, and that no suit could be brought with success against the hospital trustees. The case of Helen Ward *versus* St. Vincent's Hospital, New York (final trial in May, 1900), does not support this doctrine, but as the suit had little to do with anesthetics I cannot discuss it here. It appears to sustain the hypothesis that a "private" patient has a right of action against a hospital, if negligence on the part of the trustees is involved. When the trustees of a hospital allow a non-medical person to administer a general anesthetic on their premises, they appear to be guilty of negligence.

Notwithstanding Mr. Wilcox's opinion, I have abundant evidence that very many conscientious physicians and surgeons never allow a nurse to administer any general anesthetic except in emergencies when a second physician's services are unobtainable. If a nurse in the absence of a physician uses her discretion in the "amount and frequency" of administration of anesthetics and medicines, as Mr. Wilcox relates, she *diagnoses* the patient's condition and she *prescribes* the amount of medicine or anesthetic which she administers at that particular time, both of which acts are forbidden to non-medical men and women by the statute defining the practice of medicine, and both of which acts are specifically forbidden to nurses by the statute creating the *status* of trained nurse when it provides that nurses shall neither "practice medicine nor undertake the treatment or cure of disease."

I have no doubt that certain physicians allow nurses to do these acts, and surgeons may exist who telephone to nurses to anesthetize patients prior to surgical operations in order to save the surgeon's time, but such cases are rare, and the procedure is not only dangerous but clearly illegal. I do not consider it necessary to discuss in detail Mr. Wilcox's contention that if "properly skilled" a nurse can lawfully give a general anesthetic. Practicing medicine involves treatment of the patient's physical condition; to treat is to care for medically or surgically. The administration of a general anesthetic necessarily involves medical care, which no surgeon gives, or can give in a satisfactory manner while operating. The idea that skill on the part of a nurse makes legal acts which would be illegal if she were unskilled is inconsistent with the language employed in the statute defining the practice of medicine. The statute provides that persons who are not physicians shall neither diagnose, treat, operate nor prescribe for any disease, pain, injury or physical condition. Not one word appears which grants permission to nurses, or other non-medical persons, to diagnose, treat, operate or prescribe by order of a physician, either in his pres-

ence or in his absence, "if properly skilled"—whatever that may mean,

The Attorney-General of Ohio has more than once given an opinion that in Ohio nurses cannot lawfully administer general anesthetics. Although the original opinion was dated April 14, 1911, and although attention has been drawn to the matter by the Ohio State Medical Board, as recently as June last (1913), Lakeside Hospital, in Cleveland, Ohio, was using nurses as anesthetists and was "training" nurses as anesthetists to go to other institutions. These facts show how much respect the managers of this institution have for the law of their State as interpreted by their Attorney-General. Nitrous-oxide-oxygen is employed as a routine anesthetic at the Lakeside Hospital, in Cleveland. I have no interest in medical affairs, or legal affairs, in Ohio, but I am interested in keeping out of this State (New York) so-called trained anesthetists—nurses—whose alleged training has been in violation of the law of Ohio, and whose employment in this State (New York) is, in my opinion, unlawful.

One of the surgeons of this city (Buffalo, N. Y.), who uses nitrous-oxide-oxygen as a routine anesthetic, employs as anesthetist a nurse whose "training" in the art of administering N_2O occupied four months in Cleveland, Ohio. He uses her to anesthetize his private patients only, and professes to charge for the anesthetic ten dollars plus the cost of the gases, which cost cannot very well exceed six dollars per hour. This surgeon does not usually give his private patients the opportunity of being anesthetized by a professional medical anesthetist, whose services can, in Buffalo, be obtained for twenty dollars, or less, however wealthy that patient may be. To compare the "skill" of this surgeon's nurse-anesthetist, with her four month's "training" in Cleveland, with the knowledge and experience of at least two professional medical anesthetists of this city, who are thoroughly familiar with the dangers of N_2O for major surgery, would be absurd. The difference in total cost between the professional anesthetist at $15 or $20 and the "specially trained" nurse—illegally trained in Ohio—at $10 plus the cost of gases, must be very trivial.

As most patients know nothing of the risks of anesthesia, and as the legislature never intended to confer upon nurses the right to administer general anesthetics, the District Attorney of Erie County ought, in my opinion, to have interfered in the case referred to several years ago. A very few words from him would, in all probability, have caused every nurse anesthetist in the city (Buffalo) to return to her legitimate and lawful occupation. It must be remembered that in most cities in New York State—and in all likelihood elsewhere—anesthesia as a primary cause of death never appears on a death certificate unless the patient dies in the operating room. Writing to me on May 14, 1912, Dr. Robert T. Morris said: "Under ideal conditions anesthetics would be administered only by physicians of long training and special training in this particular field." Granting that ideal conditions are impossible where ordinary hospital patients are concerned, what is there to prevent any surgeon's private patients having the services of a professional medical anesthetist when those patients are well able to pay any reasonable fee? Where is the private patient who would be willing to be anesthetized by a nurse if he were told prior to the operation that Mr. James Taylor Lewis, counsel of New York State Medical Society, considers that a nurse who administers a general anesthetic violates the law of the State of New York? Finally, if Dr. Robert T. Morris could be induced to give an opinion, what would he say concerning the methods of a surgeon who comes no nearer to "ideal conditions" in a city of 430,000 inhabitants than the employment of a nurse whose "training" as a professional anesthetist for the administration of nitrous-oxide-oxygen as a routine anesthetic to his private patients occupied four months?

Nitrous-oxide-oxygen is much advertised by a few surgeons as "the safe anesthetic." Yet in the hands of Dr. Gatch, of Johns Hopkins, it has proved much more dangerous than ether. What must it be in the hands of a nurse, if it is highly dangerous in the hands of such an acknowledged expert as Dr. Gatch?

Under date of October 25, 1912, Dr. R. E. Skeel, of Cleveland, wrote to me as follows: "It is true that I have knowledge of sixteen deaths during the administration of nitrous oxide and oxygen. * * * This information is confidential and came to me in such a way that it is impossible for me to make it public." The "safety" of nitrous-oxide-oxygen for major surgery appears to be due to failure to report all the deaths which it has caused. Yet it is being administered by nurses!

I have before me a letter from Dr. Maurice Fishberg, of New York, in which he writes: "Only recently I observed a case of death, due to the administration of chloroform by a nurse to the wife of a most distinguished citizen of this city while the lady was in labor."* A few drops of chloroform as an analgesic during normal labor may, no doubt, be given in an emergency by anybody under the direction of the obstetrician, but chloroform anesthesia in abnormal cases in large cities is in a different class and cannot safely be entrusted to nurses as anesthetists.

Dr. J. Riddle Goffe, of New York City, a gynecologist of great experience, is opposed "on principle to nurses assuming the responsibility of giving anesthesia." He adds that "in this State it has no legal justification."

At the end of the article on "Medicine" in vol. XIII of the Encyclopedia Americana, Dr. Osler, a clinician of international reputation, expresses disapproval of the administration of N_2O by dentists. What would his opinion be of the administration of any anesthetic for a major surgical operation by a nurse? I have excellent authority for stating that the nurse-anesthetist does not exist in England, where Sir William Osler now lives, and where any surgeon who habitually employed a non-medical anesthetist would, after suitable warning, have his name removed from the register of qualified medical men.

Little doubt exists that some deaths registered as primarily due to shock incident to a surgical operation are, in reality, due to the incompetence or inexperience of the anesthetist—often an intern, but sometimes a nurse. The consensus of opinion among the up-to-date members of the medical profession is unquestionably against non-medical anesthetists, for whose existence no good reason has ever been given. The M. D. degree does not furnish any assurance that its possessor can administer a general anesthetic with all reasonable safety to the patient, nor does the possession of that degree prove that its holder can perform surgical operations satisfactorily. But just as no sane man would allow anybody who does not (in our country) possess

*Letter dated Oct. 25, 1912.

the M. D. degree to operate upon him, so no cautious patient should permit any person who is not a physician to anesthetize him. In some cases in which the patient is a bad surgical risk, the administration of the anesthetic requires more skill than the work of the surgeon. Quoting Dr. Wm. C. Woolsey, of Brooklyn, a prominent authority on anesthetics (*N. Y. State Journal of Medicine*, Dec., 1911): "If clinics where nurses are used as anesthetists do well, they are condemned, for they can do better and will not."

As some of the lawyers named in this article are of opinion that a licensed physician can delegate to a registered nurse his right to practice medicine, provided he is present, and as other lawyers regard the administration of a general anesthetic as a part of the practice, not of medicine, but of *nursing*, I urge that the legislature at its next session be asked to pass a very brief addition to the statute defining the practice of medicine (chapter 344, laws of 1907), to follow section 7, the object being to make plain the fact that the administration of any general anesthetic, even in the presence of and by direction of a licensed physician, constitutes the practice of medicine. In emergencies, when an attending physician cannot obtain the services of a second licensed practitioner without such delay as may injure his patient, the former ought, of course, to be at liberty to employ any reliable person to give an anesthetic in his presence and under his direction, but this procedure should be limited to emergencies and should not be habitual.

The members of the legislature of the State of New York ought to be informed that one of the lawyers quoted in this article holds that a nurse can lawfully administer any general anesthetic in the absence of a physician, if instructed by him to do so, consequently any surgeon is legally at liberty to telephone to a "properly skilled" (whatever that may be supposed to mean) nurse at a hospital, to anesthetize a patient and have him ready for operation when he, the surgeon, arrives. Similarly, according to the lawyer referred to, any obstetrician is within the law if he instructs a "properly skilled" nurse to administer chloroform as an anesthetic in a labor case when she considers that procedure advisable. As anesthesia is often a matter of life or death to the patient, the legislature ought, in my opinion, to make the law so clear that no attorney can by any possibility hold that the administration of any general anesthetic can lawfully be undertaken by anybody who is not a licensed physician, even in the presence of and by direction of a licensed physician. To this there should be only two exceptions, viz.: 1. Serious emergencies as mentioned above. 2. Licensed dentists should be permitted to administer general anesthetics for such dental and oral operations as a dentist can lawfully perform, and for no other operations.

Bone-Cutting Engine.

W. G. Stern, Cleveland (*J. A. M. A.*, April 4), speaking of the inconvenience of the high-speed bone-cutting instruments now in use, the difficulty of sterilizing them, etc., describes and figures a light electrical hand-drill an adaptation of the Duntley Universal Electrical Drill, No. 000, and gives the method of its use. Any shape of rotating tool can be used with it without splintering or chipping a bone, such as occurs with the chisels or gouging, and sterilization of the parts where it is required are practicable, leaving no unsterilized surface near the field of operation.

NEW TREATMENT FOR PULMONARY TUBERCULOSIS BY THE HIGH FREQUENCY CURRENT.

ALBERT C. GEYSER, M.D.

PROFESSOR OF PHYSIOLOGICAL THERAPY AT FORDHAM UNIVERSITY MEDICAL COLLEGE; LATE LECTURER IN ELECTRO-THERAPY AT CORNELL UNIVERSITY; LECTURER IN ELECTRO AND RADIO THERAPY AT THE NEW YORK POLYCLINIC SCHOOL AND HOSPITAL; CONSULTANT TO THE NAZARETH TRADE SCHOOL, O. S. D., FARMINGDALE, L. I., ETC.

New York.

The therapeutic measure one wishes to employ must be reared upon the science of anatomy, chemistry, physiology and pathology. Let us see what tuberculosis is; how it gains entrance into the human tissue, and why it is that the reaction of the cells seems inadequate.

For our purpose it is sufficient to say that there are two main channels for infection; the one through the inspired air, the other through the gastro-intestinal tract. We must also admit predisposing causes such as heredity and environment; at all events, we have tuberculosis usually taking place as the result of these conditions either in or around the neighborhood of joints, the glandular system, the skin, or the apices of the lungs. It should be observed that the regions and tissues just enumerated are those in our economy where the least blood circulates, just as though the bacilli possessed a predilection for blood-poor areas. For the past few years I have had the good fortune to observe a large number of tuberculous joint lesions and enlarged tuberculous glands. The results obtained in these cases by means of the *x*-ray is history and does not require verification. There is one point of interest, however, that we ought not to lose sight of in the *x*-ray treatment, the lesions respond according the amount of reaction produced in the diseased area. This reaction by the tissues is analogous to inflammation, and inflammation never takes place without some increase in the local blood supply. It is rather noteworthy, then, that in the first place, the lesions occurred in blood-poor areas, and when these areas have their blood supply increased, the lesions disappear.

Some eight years ago this forced us to make use of passive hyperemia in all joints under *x*-ray treatment and as a result the lesions healed in about one-half the time that they had previously, showing that an increase in the local blood supply was not conducive to the general welfare of the tubercle bacillus.

We were also led to believe that perhaps this local increase in the blood supply was all that was necessary, and therefore discarded the use of the *x*-ray, but in a short time we discovered that the *x*-ray stimulation was an essential part, for without this, the time again lengthened.

We were therefore forced to add the stimulating influence of the *x*-ray to the produced hyperemia. The results immediately improved. The question naturally arose: What is there in the *x*-ray that gives to the cells that additional power of response? So far, opinions still differ as to the answer, but the fact remains that some energy was expended that called forth a better reaction than either the hyperemia or the *x*-ray alone. I have seen patients whose local joint lesions cleared up entirely, yet who succumbed in time to pulmonary tuberculosis. In lupus vulgaris the same method of treatment is employed and only the slightest amount of reaction to the *x*-ray is necessary, plus the induction of active local hyperemia. We have, there-

fore, practically a specific for these two forms of tuberculous lesions. The *x*-ray is not the only means whereby we can arouse the necessary reaction; injections of tuberculin will act in a similar manner. It will be observed that in neither of these tuberculous conditions have we paid any attention to the tubercle bacilli, nor is it necessary. I am not over-stepping the mark when I state as my positive conviction that the less attention we give to the bacillus the better will be the results of our therapy. It is far better for the present at least, not to depend too much upon serums. If it is possible to rouse the system by any manner of means to a proper and sufficient reaction, we are following in the wake of the "vis medicatrix naturae." Pulmonary tuberculosis is with us, always has been, but I hope it will not always be so.

I have already stated that the tubercle bacilli prefer blood-poor areas. Contrary to general belief even in the lungs we have blood-poor areas, these are in the apex of each lung. The bronchial artery is the nutrient artery for the lung structure. This, we know, follows the bronchial tubes dividing and redividing until finally lost in a capillary network. Non-use of any organ or part of an organ soon leads to functional as well as anatomical atrophy with a corresponding loss in the blood supply. This condition we find in both apices of the lungs, consequently they become vulnerable points for the tubercle bacilli to find lodgment. The bacilli having gained lodgment either through the inspired air or the gastro-intestinal tract, usually produce the stereotyped symptoms of pulmonary tuberculosis.

The diagnosis is made and treatment instituted. Some patients are sent to the seashore, some to inland lakes, some to higher altitudes, some to foreign lands, some to sanatoria, some to camps to lead an exclusive outdoor life, some are required to rest absolutely, some build up their systems by exercise, some take large quantities of food, some take soured milk, some take proteids in abundance, some live entirely upon a vegetable diet, some take drugs, some no drugs at all. Some have taken turtle serums. The final result, however, is that no matter where the patient goes or what he does, some get well, but more, many more, succumb to the disease.

Upon the autopsy table we find both sexes well advanced in years with unmistakable signs of early tuberculous lesions, completely healed, in all probability never suspected. Something has healed these lesions and that something we must find if we ever hope to cut down the terrible mortality of this well named "white plague." The man who wrote the words "the white plague" indeed wrote better than he knew, for not only does anemia of any part offer an especially suitable soil for this bacillus, but the bacillus or its toxins produce a negative chemotaxis in the region it invades and thereby actually causes anemia. It is, therefore, necessary first of all to change this negative chemotaxis to a positive one. Chemotropism must take place, for all germ diseases from which the human recovers are due to the fact that something either introduced from without or as is more likely, something inherent within the tissues has produced chemotropism or the victory of leucocytes over the invading bacteria. A foreign body within the tissues is just as much a foreign body whether it be a rifle bullet weighing several ounces or the bacillus of tuberculosis requiring an oil emersion lens to make it visible. Only one of two courses is open for the foreign body. It will remain in the tissues, becoming completely walled off, with no harm resulting from its presence, or it will become an active source of irritation and danger. At any rate the foreign body and living tissues cannot dwell peaceably together on equal terms, one must be the conqueror, the other the conquered.

It seems to be an established fact that under certain favorable conditions the blood or the serum possess all the necessary factors to cope with all the ills that the flesh is heir to. The idea, therefore, is not a new one, that if the lungs are subjected, like other parts of the body, to active or passive hyperemia, we can hope for a cure in cases of tuberculosis where an abundance of blood supply is so essential. This belief has been further strengthened by the fact that whenever we have a heart lesion with a tendency to pulmonary congestion, no tuberculous lesion is found in the lung.

Asthma is always accompanied by pulmonary congestion and seldom or never does tuberculosis associate itself with asthma. This again shows that in hyperemia we find the elements for a cure, while in anaemia the cause for the disease. Remove the cause and we approach the cure.

If we apply the simple law of physics "that no two bodies can occupy the same space at the same time," to a tuberculous patient, we can have an abundant blood supply in the lung by simply depriving the extremities of their share for the time being. When the sugreon prepares an extremity for a bloodless operation by applying from the distal to the central end an Esmarch bandage, the blood is certainly not in the extremities so prepared, wherever else it may be. Whenever all four extremities are so prepared and the blood is not in them, it must be somewhere else. The great splanchnic area and all the internal organs are for the time being in a state of passive hyperemia. The quantity of venous blood passing through the lungs for aeration is not at all thereby increased, but the arterial system having its area materially decreased, contains in the pulmonary area, perhaps 400% to 500% more during this time.

This, then, is the secret of the cure of tuberculosis, no matter what brings it about, whether lung gymnastics in higher altitudes or practised at home by the trained patient, or the stimulating influence of inhaling the cold outdoor air for 24 hours each day, or the increased of the general bulk by forced feeding, or by strenuous exercise leading to cardiac hypertrophy; somehow in each form of treatment, it is the increased blood supply which either furnishes the means of destroying the bacilli or so aids in walling them off that they become innocuous.

From personal observation I am led to the belief that the germs simply are isolated and walled off from the general system. Autopsy has shown that a patient having died from some intercurrent disease two and three years after this system of treatment had been made use of, their lungs gave an exact counterpart of those lungs that are seen upon the autopsy table in the aged where tuberculosis had never been suspected.

In the year 1908 a paper was submitted to the Clinical Society of the New York Polyclinic School and Hospital, in which I detailed the results of eighteen cases of undoubtedly pulmonary tuberculosis having been cured simply by making use of the opposite Bier system, all the extremities were bandaged for a certain number of hours each day, with regular hydro-therapeutic measures employed, as well as the usual out of

doors regime. Out of twenty-four cases so treated, eighteen recovered and six died.

After a careful analysis during the next few years we came to the conclusion that there was yet something very essential lacking. We recognized as we had in the tuberculosis joint lesion that some additional feature was necessary besides the blood supply, or the passive hyperemia. During the year 1909 we also learned that as far as we had then gone, all of our treatment showed results only in the early stages. We soon learned to divide our cases into three sets and treatment of the special kind was only applied to number one cases. They, of course, were the incipient cases, patients still in good flesh, a good family history, no previous hemorrhages, but upon the other hand, that slight irritative and persistent laryngeal cough, worse in the morning, better during the day, to reappear late in the afternoon with a slight rise in temperature, the sputum mostly positive upon repeated examination. The *x*-ray usually shows an increased resistance at the apex. Such cases were selected anad classed as No. 1 or suitable for special treatment. It was about this time that the high frequency current became generally recognized in France and Germany.

The author then became interested especially in the diathermic phase of the current and in July, August, September and October of 1909 made an extensive trip through the European centres in pursuit of knowledge concerning the physical as well as the physiological possibilities of the diathermic uses of this high frequency current.

In 1910 we presented the first paper upon this subject in this country before the New York Polyclinic School and Hospital Society.

The deductions and future possibilities of this current seemed at that time to border upon something marvelous if not almost unbelievable. So much was this society interested in this new current that a committee of three was appointed to investigate the various claims. October 17, 1911, the subject matter of this paper was brought before the Essex County Medical society at Newark. Now, not only has every claim put forward by the author at that time been confirmed upon both borders of the continent, but what seems more strange, by perfecting the instrument, possibilities as great and even greater are now in store for us.

The high frequency current when used over a tuberculous area at once raises the temperature of that area from one to three or even more degrees. With the raising of the temperature we have the dilatation of all the blood vessels. The fact that this is a rapidly alternating current of very high frequency causes a positive chemotaxis to take place instead of the previous negative one. It is therefore the additional blood supply and the heat plus the important positive chemotaxis that causes the chemotropism which leads to the cure of the lesion. In other words, we are supplying exactly that, which nature in this disease fails to furnish, chemotropism, and we supply nothing additional.

The question naturally arises: Why is this treatment only good during the early stages and why such a failure during the later stages? The answer is simple enough. When the high frequency current is employed over a local area, only local effects are produced. The current passes in straight lines between the two electrodes and does not greatly effect the rest of the body. During the early stages we are dealing with a localized focus, usually without or only slight constitutional manifestations. If therefore the local lesion is at once cleared up the patient may be cured. On the other hand if the constitution has too generally been invaded it is almost impossible to create that all essential positive chemotaxis in the entire system. It is hoped that the wisdom of future generations may bring to light a method or means of accomplishing even this. At the present time we are well satisfied that "Every case of tuberculosis can be cured by means of the high frequency current if instituted before the second stage of the disease." As this current only affects the local lesion it becomes apparent that such methods as sanitation, hygiene, rest and diet must not be lost sight of.

Technique.

Assuming that the diagnosis has been correctly established and the case selected as suitable for diathermic treatment. Apply over the affected area, anterior and posterior flexible tin electrodes.

These electrodes must cover as large an area as the conformity of the part will permit. As a rule the lesion will be found in one or both of the apices of the lungs. A large tin electrode extending from two to three inches beyond the supposed margin of the lesion is applied. If both lungs are involved, the electrode may reach from the axillary space of one side to the other, reaching well over the clavicles and down to the fifth or sixth rib. The metal electrode must be snugly fitted to the chest wall. The same size metal is now applied over the upper part of the back. Several thicknesses of Turkish toweling is placed over each electrode with a wide roller bandage. This part of the technique may be varied according to the circumstances, the object being to fix the electrodes into close approximation with the parts to be treated so as to prevent sparking from the metal to the skin. The electrodes are connected with the rheophores of the D'Arsonval current, the patient seated in a comfortable reclining position and the spark gap opened very slowly and cautiously. Inquiry must be made of the patient as to the sensation of the current. If the patient experiences any stinging or burning the electrodes require adjusting at that particular point. It cannot be emphasized too strongly that there must be absolutely no sensation beneath the electrodes, except that of a gentle warmth.

If everything seems right open the spark gap until the milli-ampere meter shows a reading of 1000 ma. when both apices are involved or 500 ma. for one. Allow this current to act for thirty minutes. The current is shut off. Beneath the electrodes the skin will feel warm and usually moist, although this moisture may not occur until after a few treatments have been given. The part treated is sponged off with a moist towel and gently dried. This treatment is repeated at least once daily during the first month. If at the end of the first month the patient is re-examined, the physical signs will be apparently worse, the rales have usually increased in number and extend over a greater area, the cough is more abundant, the expectorations greater in quantity. The patient on the contrary feels better and does not share in the physical signs; he will state that he sleeps better, his cough is easier, it does not rack him so much, his expectorations are looser, the irritation of which he has mostly complained is very much lessened and he seems better. This discrepancy between the physical signs and the feeling of the patient are most pronounced at the end of one month to six weeks.

At this time the delicate lung tissues, especially the blood vessels, have become accustomed to the dilatation and the increase in the blood volume. Day by day there

is less danger of hemorrhage. During the next two to four months the treatments are given every other day with a gradual increase in the milliamperage. At the end of the third month the dosage should be from 1500 to 2000 milliamperes, thirty minutes on alternate days. The physical signs have nearly all disappeared, there is little or no cough and practically no expectoration. If at this time the sputum is re-examined it will be found absolutely negative. Should on the other hand the patient have lost all of the physical signs yet retain germs in the sputum, it simply means that the lung has not entirely cleared and another month or two may be required. If everything has gone favorably and the sputum is negative, then the patient should be sent to the country. The primary reason for sending the patient may be twofold. First the patient now realizes that he is really getting better. He feels it and he no longer requires the treatment. Secondly, the change of air and surroundings have a beneficial effect far greater than is usually conceded. The question of altitude is a very important one next to the purity of the air. Where one or both of the apices have been affected, where there has been a great deal of abdominal instead of chest breathing in such cases a gradually increasing rarification is indicated for the lung gymnastics that it affords. If on the other hand, the chest breathing is deep or where the patient has had a course in lung gymnastics, such a patient will frequently do better near the seashore. As a general proposition the more robust the patient the lower the altitude, the more delicate the patient a gradually increasing altitude.

Exercise must be controlled rather than advocated for we are not treating obesity, but a consuming and wasting disease. The diet should be generous as far as cream, butter and fats are concerned, fresh fruits, nuts and vegetables in abundance. In fact, whatever is known from previous experience to agree best with the patient. I would strongly urge the adoption of a rational physiologic method of feeding. Do away with the idea that forced feeding can cure or even assist in the cure of a tuberculous patient. If the patient is fed against his desire more harm than good usually results. On the other hand, everything should be done to increase the patient's desire for food, then the proper food taken with a relish for it will perform a physiological function. You may be able to stuff a goose and so fatten him, but not a tuberculous patient. The intestinal tract must be kept in a normally aseptic condition. I make it a rule that the bowels move at least once every twenty-four hours. The enema with the addition of some bland soap serves a valuable purpose. From the very beginning the patient should take liberal doses of the Bacillus Bulgaricus. My favorite prescription is lactobacilline glycogene double doses three times daily for six weeks to two months, then the regular dose for six months more or as indicated. Experience has demonstrated that lactobacilline glycogene Metchnikof is far superior to the plain lactobacilline in these cases of incipient tuberculosis.

General hygiene, bathing, an occasional wet sheet pack or electric light bath or Turkish bath assist in removing large amounts of toxic material from the system. From the foregoing it must be apparent that while the high frequency current plays a most important part in the treatment of this disease, all the stereotyped agents known must be made use of as the indications for them arise.

231 West 96th Street.

STONE IN THE KIDNEY.*

HENRY H. MORTON, M. D.,

CLINICAL PROFESSOR OF GENITO-URINARY DISEASES IN THE LONG ISLAND COLLEGE HOSPITAL; GENITO-URINARY SURGEON TO LONG ISLAND COLLEGE AND KINGS COUNTY HOSPITALS AND THE POLHEMUS MEMORIAL CLINIC, ETC.

Brooklyn, N. Y.

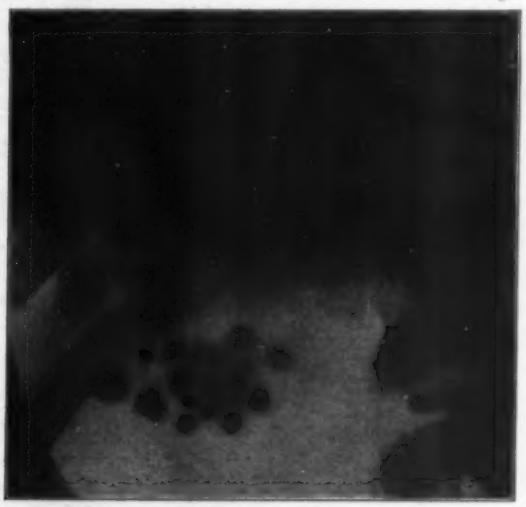
The patient is a young man 26 years old. He has a stone in the kidney but gives a very unusual history for such a condition.

His present illness dates from three months ago, when he noticed bright blood mixed with his urine. This has kept up until the present time. He has had no pain and he has had no other symptoms except this hematuria.

Dr. J. S. Read explored the bladder with the cystoscope and found it perfectly normal. Then he catheterized the ureters and the right kidney urine shows no pus, a few blood cells, but no casts or crystals. There are 8 grains of urea to the ounce—normal urine from the right side. The left urine shows a moderate amount of pus, many blood cells, many calcium oxalate crystals and urea 3 grains to the ounce—a kidney which is secreting about less than half what it should, and with the pathological elements of pus and calcium oxalate crystals.

The diagnosis of stone in the kidney was then confirmed by the *x*-ray, plates of which I show you.

There are several shadows in the kidney and it looks as if the kidney had a collection of a half dozen or more small round stones. Whether they are all stones or fictitious shadows we do not know. We will cut down on the kidney and will then remove or drain it as seems necessary.



Radiograph Showing Shadows of Multiple Kidney Stones.

Operation.—We first pick up our landmarks, which is not difficult as the patient is a young man and not very fat.

Here is the end of the twelfth rib. Two fingers' breadth from the spine is the border of the erector spinae muscle. The landmarks are well identified. Here is the erector spinae, or the sacro lumbalis muscle, as they call it in Germany, and here are the abdominal muscles. The kidney lies surrounded by perirenal fat. I have made a small opening in the

*Clinical lecture at Long Island College Hospital.

fuscia and which I will enlarge with scissors. Here I feel the kidney. I make a few sweeps of the finger around, sufficient to clear the adhesions, which are not very dense.

I now have the kidney out on the flank and I can feel a number of stones in the pelvis of the kidney. The organ itself is pretty well disorganized. It is bulging here and is filled with fluid, which will prove to be urine and pus.

Now as to the rule regarding the kidney: although it is still secreting a certain amount of urea, I think that it is wiser and more conservative to do a nephrectomy in this particular case at once and take the kidney out and we will have a clean wound which will heal readily rather than to do a pyelotomy and have a slow suppurating case with a strong probability of being compelled to remove the kidney ultimately.

We protect the peritoneal cavity by a gauze roll. The proper placing of the retractors gives me great space here and I think that an important thing in doing a kidney operation is to get the retractors placed right.

We tie the ureter first and the vein and artery each separately. I now pick up the stump containing the vessels with a Kocher clamp and cut the kidney away from its vessels and the ureter. The next thing is to cut the ligatures and look into the wound. You see, we have a good, solid, clean wound in there and everything is ligated. There is no bleeding about it. The peritoneum is intact. Here is the colon covered with peritoneum.

We will not proceed to close the wound. In draining these kidney cases I think that it is always better to use drainage. I do not close them up entirely, but use what is known as the Miculicz tampon, which is simply a piece of gauze and gauze tampons are applied within the outer envelope of gauze. You see, we have the pack in the dead space and it is surrounded here by its outer layer of gauze. After 48 hours we loosen the inside packing and after that is all out we remove the outer gauze. This prevents any possible chance of the gauze becoming caught on the ligatures and pulling the ligatures out.

I will ask Dr. Fraser to introduce the remaining stitches while we have a look at the specimen.

This is certainly very interesting. Here are the calyces of the kidney. Here is a little stone, here a big stone, and here a lot more in the pelvis. I am going to cut it, but I want to show you those things. Here is the big stone right in the middle of the kidney which was imbedded in the pelvis and it has the distinct characteristic shape of all these kidney stones as they grow in the calyces of the pelvis. You will notice, too, that it is made up of two formations. There is one which looks like a stalactite; that is, this part, and then there is the other ordinary dark brown part. Evidently there must be a different chemical deposit of salts to form those two forms of the stone here.

Kidney Removed for Multiple Renal Calculi.

It is very gratifying to get a specimen like this and to be able to make a diagnosis beforehand and know just exactly what we had, and I also feel that my judgment in taking the kidney out was confirmed by these findings. The kidney was disorganized and was secreting only about one-third that of the other side, so it would not have done much good as an organ of excretion and he is much better off to have it out. As it is now, we have a clean wound which ought to heal up in three weeks and in less than a month he should go back to his work.

I would just like to say a few words in general about the question of renal calculus.

The thing which will interest the medical students here as practitioners alter on, is the matter of diagnosis. The operative removal of these things has to be left to the hospital men, but the diagnosis is a thing which ought to be made by every general practitioner; at least, not an absolutely accurate diagnosis, but the general practitioner ought to suspect the condition from certain symptoms.

This was a rather atypical case. We have certain general characteristics which we expect to find in every case of renal calculus. For instance, the cardinal symptoms of a kidney stone are hematuria, pus in the urine and pain and attacks of renal colic. Those are the four symptoms which we find in all the typical cases of renal calculus. This man, however, did not have all of those. He simply had hematuria. He never had any pain. He had no renal colic. He did not have much pus nor blood in his urine and so far as his symptoms went nobody would be able to make a diagnosis, but the mere symptom of hematuria is something calling for an accurate diagnosis by modern means and instruments of precision.

To show the effects of neglect of following up a case of hematuria I had a sad case here a few weeks ago. A man of 60 had been bleeding for eight months pretty continuously. Sometimes he would have a little pain and at times it would stop, but there was a continuous amount of blood present in the urine. He felt well and went about his business and noticed nothing particular the matter with him except the blood in the urine which he made light of hoping all the time it would stop. He drifted along and finally came to me. The symptom of hematuria of eight months' standing and a considerable amount of blood in the urine were things, of course, to excite a feeling of anxiety as to the cause.

When I cystoscoped him I found the bladder filled with a papillomatous growth which was unquestionably carcinoma. Now even if that had been discovered eight months sooner, it would not have made very much difference in the prognosis because carcinoma of the bladder is cancer, and we have not been able to do very much with cancer anywhere unless it is in some organ like the breast, which can be removed entirely. Otherwise it is hopeless. The prognosis would not have been

made any different, I believe, by an earlier discovery of the condition, but the man would have been able to terminate his affairs and he was engaged in some enterprises which were very difficult to withdraw from at the time, but which he had to do, of course. At any rate, he would have known where he stood and we are all better off to know where we stand all the time; so the symptom of hematuria is one that always calls for investigation and diagnosis.

This man, whom I have just operated upon, had only the symptom of hematuria and came to us at the clinic. We of course investigated with the cystoscope and found that the bladder was normal. We said, "Evidently the bleeding is coming from higher up. What is the condition of the kidneys?" The ureters were accordingly catheterized and the two urines were compared microscopically and chemically and we found normal urine on one side and on the other side calcium oxalate crystals, low urea and considerable quantities of blood and pus. We suspected a stone, but were not absolutely sure, and the diagnosis was afterwards confirmed by the radiograph, which you see now and which shows up exactly the condition that we found.

So the diagnosis has to be made. Of course, when the patient complains of hematuria and comes into the office of a physician and asks him what it is, it may come from a number of causes, the urethra, bladder or higher up, as in this case, but it is only by a systematic examination, step by step, that we can work out the diagnosis.

There is another interesting point about the question of procedure in these cases—the question as to what to do with the kidney. Shall we leave it in and take the stones out, or shall we take the kidney out with the stones, as I did in this case?

Years ago we used to feel that it was better to save as much kidney tissue as possible where the kidney was not absolutely destroyed, as in this case, it was thought better to make an incision in the kidney and remove the stone, leaving the kidney. That still holds good to-day where the kidney is in pretty fair condition and where it is not badly broken down with suppuration. When there is a stone and we are sure that there is nothing more, we can do a pyelotomy and take the stone out without much damage to the substance of the kidney and if the kidney is in pretty good shape we can put it back and close the wound and leave the kidney in. Unfortunately we don't often see those cases where it is possible to do a pyleotomy, particularly in the hospital cases the stone has lasted for a long time, the kidney is badly disorganized and it is useless to try and save the organ.

Several years ago I made an attempt at different times to save the kidneys after taking the stone out where the kidney was markedly disorganized. The first case that I did was in a woman. I removed the stone and left the kidney and she did well for about a week, but after she had a tremendous hemorrhage and nearly bled to death; the wound was opened up and the hemorrhage finally stopped after a time and she made a recovery. That trouble would have been obviated if a nephrectomy had been done in the first place.

The next time I tried to save the kidney was in a case where it was pretty well disorganized. After a week's time the patient had a severe hemorrhage, which was controlled, and after the occurrence of the hemorrhage the kidney suppurated and a perinephritic abscess formed. I had to open the wound again and finally two or three months after the operation, it was necessary to take the kidney out. Then the wound healed and the patient made a good recovery and is working at his trade as a coffee roaster, which is heavy work. I have come to the conclusion that it is a great deal better to take the kidney out rather than run the risk of having a hemorrhage or suppuration and having to do a secondary nephrectomy. When the kidney is disorganized it is much better for the patient to remove it at the time of the original operation, provided we know that the other kidney is sound, and that is a very important point in these cases. We never do a kidney operation here until we have ascertained that the kidney on the other side is sound and capable of supporting life if the diseased kidney is removed. We determine that by functional kidney tests, by catheterizing the ureters and examining the urines separately and we spend several hours before the patient comes to the operating table in order to prove, if operation is necessary, that the other kidney is able to support life. That is the reason in this particular case, because of the careful preliminary work done by Dr. Read, that I felt we were perfectly safe and justified in taking the kidney out. I knew that the other kidney was sound and a man can live with one kidney as well as he can with one arm.

Questions by Auditors and Answers by Dr. Morton:

Q. In tying those vessels off (the ureter, vein and artery), are they all tied separately and then tied together?

A. There is a regular rule of procedure there. As the diagram I have drawn on the board will indicate, here are the vein, artery and ureter. I remember the order in this way, V, A, U, a little trick I learned in Germany, the word "vau." Of course we want to get as much room as we can and where it is possible we bring the kidney out and first tie off the ureter and divide it. That gives us a chance to lift the kidney out a little farther and we throw a ligature around the artery and another around the vein, so that each one is tied separately.

That, of course, applies to cases where we can do that. Sometimes adhesions prevent it. But the classical form of operating and handling the pedicle is to do as I have described.

In my practice I differ somewhat from the procedure of other surgeons, in that I use heavy silk in tying off the pedicle. I have been been criticised by my friends for doing it. They say to me, "Why don't you use catgut? It is absorbed." While that is so, the difficulty about it is this: you cannot draw the catgut as tight as you can silk, it is more liable to break or cut through the vessel and the knot is more liable to slip than heavy braided silk. With heavy silk I can pull it and get a lot of pressure and it meshes and crushes up the walls of the vessels. I have never seen it do any harm and I feel that with heavy silk around the vein and artery I have them tied off securely, so I believe that it is the best practice to use this heavy silk.

Q. How do you account for the absence of pain in this case?

A. I do not know. Once in a while we run across a big stone that does not cause pain. You remember the case of the coffee roaster I mentioned, where I took the stone out and left the kidney in? That man never had any sharp pain; only a dull aching in his back. He came to us because he had gonorrheal prostatitis. He was treated in the clinic for some time and

as he got no better the case was investigated further with the cystoscope; he was catheterized, radiographed and a stone was diagnosed.

Most of the cases of renal calculus do not have any pain in the intervals of the attacks of renal colic, but when they do have an attack of renal colic the pain comes and it is intense. The reason people complain of pain is that the stone is jammed down in the pelvis of the kidney and sets up contraction of the ureter and if it happens to be a small stone it slips back into the ureter and they have intense pain in the passing of the stone down the ureter. If it does not slip down it falls back again into the pelvis and the patient has an uneasy sensation. It seems to me that the real sharp acute pain is due always to the renal colic.

Q. (By student.) Is there any advantage in obliterating the lumen of the ureter with carbolic acid?

A. Yes, it is good to burn the ureter through with the Paquelin cautery, but I did not have it ready in this case. In tuberculous cases it is better to use the Paquelin cautery to burn through the ureter, or put in carbolic acid and close the ureter up. Sometimes urine may regurgitate from the bladder and be forced back and come out and contaminate the wound, but with heavy silk ligatures brought up tight the inner wall of the ureter is bruised and lacerated somewhat and inflammation takes place and it is not so necessary to use this measure to occlude the ureter under those conditions as it is where we do not use the heavy ligature.

Hypertrophied Prostate.

We have another patient coming in now whose history I will read:

The man is 57 years of age. The present trouble began about two years ago with frequent urination by day, troubling him mostly in cold weather. He urinates four or five times at night. For the past nine months he has had some pain during urination. For the last four days the stream has been very small and painful.

When he came in here rectal examination showed an enlarged and soft prostate. The lateral lobes were quite large and the central lobe was slightly more enlarged on the left side. Geraghty's sign was present. Three ounces of residual urine were obtained. A week later we examined him with the cystoscope and found a large intravesical middle lobe from the prostate projecting into the bladder, with a few little thin vesicular excrescences upon its mucous membrane, and in the back part of the post-prostatic pouch there was a rough papillomatous appearance as if there were growths under the mucous membrane. This condition first described of the mucous membrane is known as cystitis bullosa, and occurs very often, but has no special significance except that it indicates an intense amount of congestion. A diagnosis of hypertrophied prostate was made, with a strong suspicion of malignancy. I am of the idea that it is a carcinoma of the prostate.

Of course, the question of operation came up. I reasoned like this: he has 3 ounces of residual urine; the passing of water is accompanied with a great deal of difficulty; the growth will continue to grow and while we cannot cure him if it is cancer of the prostate, still by taking it out we can delay its progress and give him a good free outlet of the bladder so as to pass his urine freely and comfortably and we may make him more comfortable by operating. If it is carcinoma, it will come back. It will only delay the fatal result.

If it is not malignant but only a simple hypertrophy, now is the time to operate before his kidneys have been involved and while his general health is in good condition. So I advised operation and he consented to it. Before we decided on operation, we also made a thalein test and found that 35 per cent. of thalein came back in the first hour, 38 per cent. in the second hour and 40 per cent. in the third hour, showing very good kidney excretion. When the kidneys are excreting freely we feel it is very safe to do a prostatectomy, even though other things are unfavorable. One of the oldest men I operated on for a hypetrophied prostate was 82 years of age and I felt perfectly safe in going ahead with him because the thalein test showed the kidneys were functionating well and there was no danger of suppression of urine.

Operation.—On opening the bladder above the pubes and introducing my finger, I find the same big projecting middle lobe which I saw with the cystoscope. It is about the size of a marble and acts like a ball valve.

With one finger in the rectum and with the other hand in the bladder I enucleate the prostate with great ease, and it comes out all in one mass.

As I hold it up you can see the shape and relations of the projecting middle lobe. There is quite a little bleeding and I will pack the cavity from which I removed the prostate.

To expose the bleeding cavity of the prostate, I introduce three right angled retractors in the cavity of the bladder. Observe what a good exposure of the interior of the bladder I have succeeded in getting by placing the retractors in the correct position. The essential point in doing surgical work is the proper use of the retractors in order to get good exposure, for if you do not expose well you cannot do good work. There is quite a hole here and to make sure of the bleeding being stopped I will put a pack in and then we will be sure. This is the sort of pack that I use in these cases. I pull the string and that pulls it down and jams it down fast. The idea is like that of the old Belloc catheter with which we used to stop nose-bleed when we stuck it up through the nares.

I have jammed it right down into the spot (pulling the string through the penis from the bladder end outward). Now we have that pretty well controlled. The packing is in the cavity. I see that it is controlled fairly well, but not sufficiently so. It is oozing all the time and we will, therefore, pack the whole cavity of the bladder and control the hemorrhage in that way. There is a little oozing from the space of Retzius, which we will also pack to avoid any infiltration of urine.

We now have the hemorrhage all stopped. Everything is solid and the bladder is filled with the packing. The cavity of the prostate is also packed and this will come out last after the tampon has been removed from the bladder.

For some time I have been using silver wire sutures to close the wound in the bladder and allowing them to stay in as long as I can. In using silver wire there is always a litle buckle or bend at the eye of the needle where the suture is bent upon itself.

Dr. Michaelis has suggested a good idea, which we are trying out this afternoon, and he has brought the sutures made after his plan. This idea consists in taking silver wire and having it soldered into the eye of the needle, and as the needle goes through, the wire

must necessarily follow it. I have never tried it before but I guess it is going to be a good idea. You can see how nicely it goes through, and the pulling and dragging of the bend at the eye is avoided by this simple device.

Specimen.—Here are the two lobes of the prostate and the large middle lobe sticking up here and here is the urethra. The whole prostate was enucleated en masse. We saw with the cystoscope how the middle lobe stuck up here and we followed around with the cystoscope and saw this corner here and this corner. On the side you could see the cystitis bullosa. The little vesicles are where the mucous membrane of the prostate has been pushed up a little. It looks all the world like a herpes. I saw that distinctly with the cystoscope in the bladder.

Prostate Removed by Supra-Pubic Route Showing Projection of Middle Lobe.

Question by Auditor.—Do you think that it is malignant from the gross appearance?

Answer.—It does not look as malignant now as when I looked at it with the cystoscope, but we cannot tell until we examine it microscopically. There is one area there that is hard and has a very suspicious feel.*

In the early part of the lecture I made reference to Geraghty's sign. Now to explain just what this sign is. Dr. Geraghty, of Johns Hopkins, two or three years ago read a paper before the Genito-Urinary Association on a condition which he found was very apt to occur in carcinoma of the prostate. It is this: when you have a hypertrophied prostate which is not malignant and you put a sound into the urethra you find there is no thickening of the middle isthmus between the lateral lobes of the prostate.

The finger is only separated from the sound by a small amount of tissue.

This is the condition you find in senile hypertrophy of the prostate.

When you have a carcinoma of the prostate the middle isthmus is infiltrated and thickened and instead of feeling a thin layer of tissue between the sound and the finger, there is so much infiltration and thickening that oftentimes the sound cannot be palpated at all.

This sign has worked out correctly in several cases. We found it to some extent in this case, but I have noticed it much more typically in other cases. Whether this is carcinomatous or not I do not know, but I am always suspicious of malignancy in those cases where the thickening of the posterior portion of the prostate between the finger in the rectum and the sound in the urethra can be made out.

Question by Auditor.—Could you have done a successful perineal operation on this man?

Answer.—No. If I had gone in through the perineum I would not have been able to reach high enough with my finger to get above the upper border of the prostate and while I could have enucleated the two lateral lobes, I would have had great difficulty in getting out the middle one.

The point I always make in these prostatic cases is that if you can put your finger in the rectum and palpate the upper portion of the prostate and if by cystoscopic examination you are sure that there is no projecting middle lobe, you can do a perineal operation and get it out without any trouble, but with a big projecting middle lobe like this you cannot reach the upper part with the finger and it is much better to go in from above.

32 Schermerhorn Street.

* Prof. Archibald Murray reported later that the specimen was not malignant but a simple adenomatous hypertrophied prostate.

THE BANEFUL INFLUENCES OF ALCOHOL.

With Special Reference to the Effect Upon the Offspring.

J. Wallace Beveridge, M. D.
New York.

Alcohol, as contained in spirituous drinks, has been used in some form or other since mankind began. The history of all nations, all tribes and all communities of human beings has always shown that alcohol has been one of the forms of stimulation.

In the laboratory the experiments which have been carried on to show the action of alcohol directly upon cell structures taken from the lower orders of life is most valuable for the instruction of what does occur in a human being along biological lines.

Beginning with the cells of the yeast plant, taking 1 c.c. as the standard, growing them on their natural media, there were found after eleven hours 2,061 normal sells present, then when a one thousandth per cent. alcohol solution was added the normal cells were reduced to 1,091, adding a one hundredth per cent. solution the cells were reduced to 992, with a one-tenth per cent. solution the figures dropped to 852, and when a five per cent. solution was used only 69 normal cells were found next. The phosphoric bacilli of Beyerinck were used—these bacillia are readily photographed if placed in an appropriate vessels—a dark screen with holes in it covers the top, over which a sensitized photographic plate may be placed—the phosphoric light given out by these bacilli through the openings in the screen will be indicated on the photographic negative. Add a seven to twelve per cent. alcohol solution to the culture, and it makes no difference how long the exposure of the negative may last no indication of the phosphoric light will be found. This shows clearly and conclusively that the bacilli are disintegrated by the poisonous influence of alcohol.

Coming higher in the scale of existence we will use the perch, crayfish and goldfish as examples. To the acquarium in which they are swimming add one-tenth of one per cent. of alcohol to the water and these fish will immediately drop to the bottom, then, unless they are removed to an acquarium containing unpoulated water, will die.

If a fertile egg of a chicken is immersed in a five per cent. solution of alcohol for about two hours, or subjected to the fumes of alcohol, the embryonic chicken will never become viable. Again, by giving alcohol to a guinea-pig in minute doses, about half a drachm during each twenty-four hours while pregnant, the offspring, if viable at the time of birth, will pass away within six hours.

These simple experiments conclusively prove that alcohol has a distinct poisoning effect upon cell structure and upon the existence of life as it is about to begin in the lower biological orders.

From these observations we are able to arrive at a fair estimate of what damage may occur in the human being if subjected to the abuse of alcohol.

In humans there unquestionably is a marked resistance to the effects of alcohol; this may be due to a naturally stable, virile and healthy organism, while in others the normal resistance is much less and the poisonous effect is observed to a marked degree.

Of course, as a race, whether Mongolian, Caucasian, or any other, the long continued use of alcohol through centuries and centuries has unquestionably caused us to manifest a greater resistance to its poisonous effects than in an uncontaminated animal; but this does not warrant the abuse or the indiscriminate use by any individual and the purpose of this article is especially directed towards showing its evil effects when men and women marry and are about to have children.

To my mind it is a very poor custom when people marry to celebrate the event with champagne, beer or whiskey, when the considerable amount of spirituous liquor which may be consumed during the beginning of their marital career during the first day is a precedent that should not be countenanced; because, even if they desire to continue an abstemious life, the initial impression and exhiliration that is given at the time of marriage may persist, and the continued use of alcohol at every little celebration will ultimately result in a more or less continued use of strong drink. Of course in the human, if the father is a continuous imbiber, provided the mother is abstemious, the statistics upon the children, do not show such grave results as if the mother was also a drunkard.

In the countries like France, Russia, England and America, where drinking has been greatly on the increase, the birth-rate has been steadily diminishing. In France, the birth-rate per capita is now only one-fifth of one per cent. In Russia one century ago the birth-rate per family was five, and now it is only two. In this country the birth-rate in ten years has diminished eleven and four-tenths per cent. So startling are these figures in France and Russia that the governments have appointed investigating committees—in both cases the verdict has been alcohol. In France the government has been contemplating the adoption of strenuous laws to prevent the indiscriminate use of spirituous liquor, while the manufacture of absinthe has been made a misdemeanor. Again, during the past fifteen years the admission to the army for the enlisted man requires a certain standard of heighth—this has been reduced three times, and the loss in stature has unquestionably been due to the decrease in the physical welfare of the individual that is born of alcoholic parents.

In England, where pauperism has been on the increase, the consumption of liquor has also been vastly more in amount than during any period in the history of that country. The children born of these indigent unfortunates are rarely, if ever, able to earn their living, and not only does it make a severe tax upon the country, and give intense worry to the men at the head of the government as to how to provide for these people, but it is causing an element to arise which is a distinct menace to the country; because if they are unable, or do not desire to occupy positions of trust wherein constant application is required, they naturally band together and endeavor to get what they can from others by coercion. The annual cost for maintenance and watching this great host of uneducated and effortless people is bringing a burden of taxation to bear on those able to produce and maintain their families as they should, which is giving Lloyd George one of his most serious problems.

The stature of the enlisted man during the past ten years has been reduced twice. The statistical work which Dr. W. G. Sullivan of the General Hospital at Liverpool, has done is a masterly presentation of the evil results from women bearing children that are alcoholics. He shows in histories of 120 women, to whom 600 children were born, that 55 per cent. were dead at birth, 22 per cent. died before the third year, 11 per cent. died before the fifteenth year, and the remaining 5 per cent. may or may not have reached maturity.

In the United States the backbone of this nation first started from the early Puritans and the hardy men and women of the frontier whose daily task was to fight nature and combat the Indians during the early days when the dangers of existence were in constant jeopardy. This sturdy assemblage of a few was sufficient to start one of the greatest countries in the world, and the majority of them were total abstainers; but since this country has become free, and large cities with enormous centres of civilization developed, the consumption of strong spirits has been enormously on the increase. Last year considerably over a billion dollars was spent by this nation on drink.

Now, what is the result? We have a great increase in nervous wrecks—we have a great increase in mental defectives—we have a great increase in the insane. The laws of morality have been lowered from the standard set in former times. Although perhaps they are no different from what they were a thousand or two thousand years ago in the over highly civilized centres, but still are much below what our own conscience and the teachings of those who know what is right desire.

Mothers during pregnancy, or even before they are ready for their children, accustom themselves to drink. When the child is born the milk, which is the natural food for a baby, is always under par, and ofttimes is greatly diminished in quantity. The nutrition of the child at birth has been interfered with, and, in many instances, the baby is not able to withstand infection or any exposure that it may be subjected to. As the nutrition of the mother's milk is impaired the only recourse of the physician is the use of the bottle, and we all know that bottle-fed babies are much more likely to contract disease and die than those fed at the breast. But these grave effects do not seem to be recognized by the majority of men and women—about to have children—they permit themselves constant indulgence to gratify their desire for excess stimulation. Again, if the baby is able to withstand all these undermining features, and grows to maturity, his mental capacity generally is below that of those who were given true opportunities of health. They are not able to withstand serious mental shock, such as grave disappointment, or business worry, or the competitive battle of existence in our large cities, and the resulting shattered nerves and physical health in time places the man or woman as a charge upon his friends, the family or the city.

Why should we, as physicians, permit people to continue in this reckless waste of nature's greatest blessing —health? and burden their offspring with a body unable

to cope with our problems of life today? Only by constant reiteration, and by teaching the evil effects of what may be the result, from alcohol can we hope to blaze a path for our future generations which will have no such handicap to overcome.

There have been a number of investigators who have put forth the positive assertion that the effect of alcohol on the human race is very slight, but this assertion is not borne out by the facts brought to light recently.

The physicians in charge of our insane asylums and our institutions for the care of the mentally deficient have given us a tremendous amount of statistical information during the past few years, and under the heading of the principal cause of insanity, apoplexy, mental deficiency, moral degeneracy and criminal tendencies, alcohol is given the prime etiological place. The great insurance companies will not take risks of a first class from those addicted to alcohol; and why should mothers of our girls take the risk by permitting their daughters marry men who will not curb their appetites?

We are all fairly familiar with the action of alcohol in its pathological results, and it is unnecessary to give a detailed description thereof, but when considerable fluids are consumed and alcohol is the base, they are more readily absorbed and the blood pressure is immediately changed. This causes an increased tax upon the kidney during elimination, and in time will create changes in the structure of the kidney, which usually results in interstititial nephritis. The liver is taxed in removing the toxic qualities in alcohol, and the toxins which are formed by the change in the carbohydrates and proteids that occur when united with alcohol, cirrhosis or fatty degeneration is the result. The stomach, especially the pylorous, will ofttimes result in a degenerating process ending in carinoma, and the nervous system through over-stimulation, will become degenerated. The use of alcohol, except in very great moderation, is so dangerous that I believe the men and women who make a practice of drinking ought to be ostracised and received with more or less contempt, the same as we do with drug habituantes, because if we countenance or overlook drinking, and do not scorn those who make this a practice, it will continue and grow much as it is doing now; we know there is nothing that prevents one from doing wrong more quickly than the evil impression one creates with the loss of friendship.

17 East 38th St.

AN ADJUSTABLE DIET LIST.

ARTHUR L. HOLLAND, M. D.,

SHELDON FELLOW IN MEDICINE, CORNELL UNIVERSITY MEDICAL COLLEGE, NEW YORK CITY; CONSULTING GASTRO-ENTEROLOGIST TO THE MISERICORDIA HOSPITAL, NEW YORK CITY.

New York.

In the management of gastric diseases, a regulation of the diet is perhaps the most important part of the treatment. A diet list to be of value should include the foods that are allowed as well as those forbidden and it should state definitely when each meal should be taken and just what should be eaten at each meal. Stereotyped lists with set rules may be used in typical cases but being inelastic are useless in the irregular cases, and this sort are met with much oftener than are the regular kind. The time required to write or dictate a list to fit each case is considerable and it is, to say the least, an irksome task and for this reason frequently neglected. In an attempt to obviate these difficulties, the writer has devised a scheme for a list which seems practical and requires but a slight expenditure of time to make it suitable for individual cases.

On one side of a folder is arranged, in numbered sections, a list of simple foods that are commonly served in the average American home. In each section are placed articles that are similar in character and, within fairly narrow limits, digestibility. On the other side of the folder is arranged a blank form, which when filled in serves as a diet schedule. Here it is not necessary to write out a list for each meal; a series of numbers indicates definitely the meal that is ordered. The fact that a record can easily be kept of the diet ordered, by simply noting on the history blank the numbers of the sections selected, is an advantage worth considering. When one or more articles in a section are contraindicated, a cancellation with pen or pencil renders that section available.

Below will be found, in addition to the list used, a schedule that has been made for use in a case of acid gastritis:

DIET LIST
AND SCHEDULE
FOR
Mr. John Doe.
Jan. 1st, 1914

1. The juice of an orange, the juice of half a grape fruit.
2. Two or three tablespoonfuls of any stewed fruit, served with cream and sugar, a small baked or steamed apple with cream, a scraped banana sliced and served with cream and sugar.
3. A glass of milk, buttermilk, koumiss, matzoon, fermented milk, malted milk or a cup of cocoa made with milk and sugar.
4. A cup of tea or coffee with cream or milk and sugar.
5. A cup of bouillon, consomme or broth of clam, beef, mutton, chicken or veal.
6. A helping of creamed soup made of asparagus, celery, corn, cauliflower, potato, split pea or dried bean.
7. An average helping of any thoroughly cooked breakfast cereal, served with milk or cream and a little sugar.
8. Rolls, white bread (not too fresh), toast with butter.
9. Rye, corn, wholewheat, graham, bran or Boston brown bread with butter.
10. One or two raw, soft boiled or poached eggs.
11. One or two shirred, scrambled or omeletted eggs.
12. One heaping tablespoonful of scraped raw beef or scraped raw ham on soda crackers or as a sandwich between two slices of white bread with a little butter.
13. One small caviar or sardine sandwich made with thin slices of white bread and a little butter.
14. An ordinary white bread sandwich of roast beef, roast lamb, roast chicken, roast white meat of turkey or boiled ham.
15. Six raw oysters (no hot sauce or condiments, excepting a little lemon juice).
16. A portion of broiled, boiled or baked fish, such as sea bass, striped bass, butterfish, cod, flounder, halibut, perch, pikerel, pike, sheepshead or trout.
17. A portion of broiled or creamed sweetbreds, broiled brains, creamed oysters, creamed chicken, creamed boiled ham or creamed smoked beef, served on toast.
18. One broiled lamb chop, a portion of broiled steak, a slice of roast beef, roast lamb or boiled ham, a portion of roast chicken, roast white meat of turkey, roast guinea hen, one roast or broiled squab, partridge or woodcock (no made gravies or sauces to be served with meats; only the dish juice).
19. An average helping of boiled asparagus, string or butter beans, green peas, stewed tomatoes, creamed celery, creamed oyster plant, creamed carrots, creamed spinach, creamed cauliflower, new young boiled onions, new boiled squash, vegetable marrow, new tender lima beans.
20. An average helping of boiled or baked macaroni, spaghetti or noodles (a plain tomato or creamed dressing may be used but no cheese or mixed sauce), boiled rice, sago, southern hominy, baked, mashed or creamed potatoes.
21. As a salad, any cooked vegetable mentioned above, served with olive oil and a little lemon juice. Occasionally, tender lettuce or endive may be used.
22. A small portion of Neufchatel or cream cheese, served with crab-apple or currant jelly or Bar-le-Duc.

23. A helping of rice, farina or tapioca pudding, custard, floating island, egg souffle, blanc mange, plain or flavored gelatin with cream.
24. A piece of dry bakers' cake (without seeds, currants, nuts, dried fruit or icing), sponge cake, plain cookies.

SCHEDULE.

ON ARISING—*A teaspoonful of Carlsbad Salts in a glass of warm water.*
BREAKFAST, *at 8 o'clock—3, 7, 8, 10.*
AT *10.30* O'CLOCK, *3.*
LUNCH OR DINNER, *at 1 o'clock—3, 12 or 13, 23.*
AT *4* O'CLOCK, *3.*
DINNER OR SUPPER, *at 7 o'clock—6, 8, 17, 20, 23.*
AT O'CLOCK.
AT BED-TIME, *3.*
DURING THE NIGHT

AVOID.

Rich, complicated, made dishes, hash, ragout, goulash, chowder.

Fried foods of all kinds.

Heavy meats or fish, pork (excepting boiled ham), veal, rabbit, duck, goose, lobster, crabs, clams salmon or shrimp.

Potted, preserved, corned or smoked meats or fish, herring, mackerel, corned beef, sausage or Frankfurters.

Heavy or coarse vegetables, cabbage, Brussels sprouts, turnips, corn, parsnips.

Uncooked vegetables, coldslaw, radishes, celery.

Raw fruits (excepting orange juice and grapefruit juice).

Dried fruits such as raisins and currants.

Nuts.

Cheese (excepting Neufchatel or cream).

Sweets, candies, pastries, pies, tarts, hot breads, griddle cakes, muffins, sweet breads, cakes made with nuts, raisins, currants, citron or icing, ices and iced drinks, all condiments (excepting a little salt), mustard, pepper, paprika, pickles, hot sauces, curries.

134 West 81st Street.

Special Article

Russian Mineral Oil.

Much has been written about this product of late, particularly in connection with the treatment of chronic intestinal stasis. This condition has been prominently brought to the attention of our readers* in explanation of the theories of Sir W. Arbuthnot Lane, Bart, of London, who has done a great deal to bring it to the notice of the profession. In view of the importance of liquid petrolatum in our materia medica, it is eminently fitting that the Council on Pharmacy and Chemistry of the American Medical Association should issue a report on the product and this has been printed in the journal. Much of this report is being reproduced in the belief that the painstaking work of Prof. Puckner and his associates will be appreciated by those who read the report.

Petroleum as a remedial agent was known to Herodotus 400 years before Christ and is mentioned by several early writers. It was extensively used by the Arabians and evidently played an important part in the practice of medicine in India.

As an internal remedy it was early employed in chronic pulmonary affections, obstinate skin diseases, rheumatism, and for the expulsion of tapeworms. It was extensively used for these several purposes in France under the name "Oleum Gabianum" and in North America as "Seneka oil." The internal use of the refined product may be traced to a patent granted to Robert A. Cheesebrough of New York, in June, 1872, for the manufacture of a "new and useful product from petroleum, named vaseline."

The liquid petrolatum has since become known under a variety of names. Some of the names applied to the product are:

Adepsine oil	Neutralol
Blandine	Paraffin Oil
Glymol	Petrolax
Heavy petroleum oil	Petronol
Liquid Albolene	Rock Oil
Liquid Geoline	Russian liquid petrolatum
Liquid Paraffin	Russian mineral oil
Liquid Petrolatum	Russian paraffin oil
Liquid Vaseline	Terraline
Mineral Glycerin	Water-white mineral oil
Mineral Oil	White paraffin oil.

A preparation similar to that official in the Pharmacopœia of the United States as liquid petrolatum has been included in many, if not all, of the foreign pharmacopœias, the official title under which this preparation is recognized being as follows:

Petrolatum liquidum, U. S. Pharmacopœia; Paraffinum liquidum, pharmacopœias of Great Britain, Germany, the Netherlands, Japan, Belgium, Austria, Denmark, Switzerland, Sweden, Servia, Italy, Hungary and Russia; Oleum Paraffinae, Spanish Pharmacopœia; Vaselinum liquidum, French Pharmacopœia, and Oleum vaselini (as a synonym), pharmacopœias of Denmark and Russia.

The requirements of the several pharmacopœias differ somewhat and the specific gravity as given is as follows:

U. S. P. VIII, 1905	0.870	to 0.940	at	25°
Ph. Brit. IV, 1895	0.885	to 0.890	at	15.5°
B. P. C. II, 1911, usually	0.875	or lower	at	15°
Ph. Germ. V, 1910, at least	0.885		at	15°
Ph. Ross. VI, 1910	0.880	to 0.885	at	15°
Ph. Hung. III, 1909	0.88	to 0.89	at	15°
Ph. Ital. III, 1909	0.875	to 0.890	at	15°
Ph. Fr. V, 1908, about	0.875		at	15°
Ph. Serb. II, 1908, about	0.880		at	15°
Ph. Svec. IX, 1908	0.88	to 0.90	at	15°
Ph. Helv. IV, 1907	0.880	to 0.885	at	15°
Ph. Dan. VII, 1907, at least	0.880		at	15°
Ph. Austr. VIII, 1906, at least	0.880		at	15°
Ph. Belg. III, 1906, not below	0.880		at	15°
Ph. Japon. III, 1906	0.875	to 0.945	at	15°
Ph. Ndl. IV, 1905, not below	0.860		at	15°
Ph. Hisp. VII, 1905	0.840		at	15°

For pharmaceutical purposes, liquid petrolatum may be divided into two grades, the lighter or more limpid oil, used extensively as a vehicle for oil sprays, and the heavier, more viscid oil generally recognized in European pharmacopœias and used as an ingredient of ointments and more recently as a remedy in the treatment of intestinal stasis.

The American oil consists largely of hydrocarbons of the methane series, while the Russian oil contains naphthenes or hydrocarbons of the benzene series, having the empirical composition of ethylene (C_nH_{2n}) which may be considered as hydrogenated aromatic hydrocarbons.

Mineral oils with a naphthene base are best suited for making white petrolatum, and at the present time the production of the colorless water-white liquid petrolatum appears to be confined largely or almost exclusively to the crude product of the Baku district of Russia, though it is asserted that it is now also made from the Hanover (Germany) crude oil and that some is being produced by "cracking" of the white solid paraffin.

It is also said that the American oil can be made water white but that it is not being so produced at present for economic reasons; the yellowish oil, free from fluorescence, having a very wide sale, both as a lubricant and as a substitute for lard oil and other of the more easily lubricating oils.

*Chronic Intestinal Stasis, MEDICAL TIMES, May, 1914, p. 152.

From a pharmaceutical point of view it would appear important to note the physical characteristics of the oil and to insist on absence of color, absence of odor and taste, absence of acid and of alkali and a specific gravity in harmony with the purposes for which the oil is to be used.

As a matter of fact the use of liquid petrolatum in the treatment of intestinal stasis or chronic constipation, is not new. N. A. Randolph[1] of Philadelphia was among the first to suggest its use for this purpose in an article published in 1885. Randolph also appears to have been the first to experiment with petrolatum and to determine its non-absorbability from the intestinal tract. In 1884 he concludes[2] that "pure petrolatum while entirely unirritating to the digestive tract is valueless as a foodstuff."

The experiments recorded by Randolph were evidently prompted by the fact that vaseline and a number of imitation products then on the market were being sold as substitutes for lard and butter, and opinions regarding the food value of petroleum products appear to have differed very materially. Following the experiments of Randolph, Robert Hutchison in 1899 made a series of experiments to demonstrate that petroleum, petrolatum, paraffin and related products were absolutely unassailable by any of the digestive fluids, despite the "large vogue that had of late years been given to various petroleum emulsions, chiefly by ingenious and unterrified advertising." He came to practically the same conclusions arrived at by Randolph fifteen years earlier and pointed out that "liquid paraffin in one sense may be regarded as an artificial intestinal mucus and might in that way have some value on certain forms of constipation."

W. D. Robinson[3] reports on the use of a perfectly refined colorless and odorless petrolatum, supposedly of American origin. He was able to show that all of the product passed unchanged through the intestinal tract and could be regained from the feces. In his conclusions he expressed the belief that the effect of the administration of these petroleum products is far more than as a simple intestinal lubricant. In over fifty selected cases in which nutrition, digestion and bodyweight were impaired, and the purest oil administered in 1 or 2-dram doses each day for a period of from four to six months, there was in every instance an improvement of weight, health and feeling of well-being. The administration of refined paraffin oil gave no discomfort in any instance, even in cases in which nearly a pint was given in a few hours.

William Ewart[4] suggests liquid paraffin as a safe agent for the local treatment of the lesions in typhoid fever. He says in part: "Mineral oil, such as petrolatum or paraffin, is neither absorbed nor dissolved; therefore, after all absorbable ingestions are taken up by the lacteals, it will still remain in the bowel. In this way pure liquid paraffin is valuable, precisely because it is inert; moreover, it might some day, perhaps, be made the vehicle for effective topical remedies."

A. D. Schmidt[5] quotes Stubenrath as having given liquid paraffin in the treatment of chronic constipation, and he himself gave as much as 20 gm. of liquid paraffin to adults without observing any injurious effect whatever. He says, "As a result of the administration of liquid paraffin, the feces are softened considerably and are found under the microscope to contain numerous minute globules of paraffin." He was, however, unable to recover from the feces the entire quantity of paraffin administered and believes that a certain portion of it, probably the fractions with a low boiling-point, are absorbed or possibly oxidized in the organism.

M. V. Tyrode[6] also refers to the use of liquid petroleum in the treatment of constipation.

Sir W. Arbuthnot Lane in his recommendations of liquid petrolatum calls it an ideal remedy for stasis, but cautions against the use of the lighter oil as extensively prescribed in this country as a vehicle for sprays in nose and throat work.

Paraffin oil is not absorbed from the alimentary tract and so far as known exerts no deleterious influence. It is usually given in quantities of from 10 to 20 c.c. half an hour or an hour before meals or in larger doses, from 30 to 50 c.c., at one time on retiring. From available evidence it appears that comparatively huge doses may be administered without the production of any untoward results. According to many observers, liquid paraffin should not be given with or after meals because of the inhibiting influence that it may have on the digestion of food. It is not soluble in water or the ordinary solvents and therefore cannot be diluted. The denser oils are preferably slightly warmed or drunk with warm water so as to obviate the disagreeable slimy sensation that persists when taken cold.

Volatile oils may be used in moderate amounts to give a distinctive taste to the otherwise rather insipidly tasteless paraffin oil. Among the more desirable oils to be used for this purpose would be oil of peppermint, oil of cinnamon, oil of betula or methyl salicylate and oil of cloves. From 2 to 10 drops of any of these oils can be added to a pint of the oil. When larger doses of the oil are to be given at one time, it would, of course, be advisable to use a comparatively smaller quantity of the volatile oil as a flavor[7].

From the foregoing it would appear that apart from the Pharmacopeia of the United States, practically all other known pharmacopeias describe a water-white mineral oil under the tile "Paraffinum Liquidum" or "Liquid Paraffin" as a colorless, odorless, tasteless, non-fluorescent, oily liquid, free from acids, alkalies and organic impurities. As explained before, the specific gravity of the preparation as recognized in other countries and as offered on the American market at the present time varies considerably, and there appears to be some difference of opinion as to the exact nature of the product that is preferable for use for different purposes. This matter requires further investigation.

Since the definition of liquid petrolatum in the U. S. Pharmacopeia permits the use of fluorescent products of widely varying specific gravities, it is recommended that physicians who desire the water-white non-fluorescent (Russian) mineral oil should use the term "Petrolatum Liquidum, Grave," or "Paraffinum Liquidum, B. P.," if the heavy product recommended by Lane is desired, and "Petrolatum Liquidum, Leve" if the light varieties are required. It is further recommended that under the foregoing names, manufacturers and pharmacists be requested to dispense the products, in accordance with the following descriptions:

Petrolatum Liquidum, Grave.—Heavy (Russian) Liquid Petrolatum.—Paraffinum Liquidum, B. P., liquid paraffin.—A transparent, colorless, tasteless, non-fluorescent, oily liquid, odorless when cold but giving off a taint petroleum odor on heating. This preparation should correspond to the requirements of the British Pharmacopeia for liquid paraffin and have a specific gravity of about 0.885 to 0.890 at 15 C. It is insoluable

in water or alcohol, but soluble in boiling absolute alcohol and readily soluble in ether, chloroform, carbon disulphide, petroleum benzin, benzine and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This the type of preparation used by Sir W. Arbuthnot Lane, and his associates for internal administration. It is also used as a basis for ointments and salves and as a local application to wounds, ulcers and in certain forms of skin diseases in which a simple protective is desired.

Petrolatum Liquidum, Leve.—Light (Russian)—Liquid Petrolatum.—A transparent, colorless, tasteless, non-fluorescent, oily liquid, odorless when cold, but giving off a faint petroleum odor on heating. In other respects this preparation should correspond to the pharmacopeial tests for liquid petrolatum and have a specific gravity of about 0.860 to 0.875 at 15 C. Like the heavy variety of liquid petrolatum, it is insoluble in water and alcohol, but soulble in boiling absolute alcohol and readily soluble in ether, chloroform, carbon disulphide, petroleum benzin, benzene and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This is a type of preparation extensively used as a vehicle for the oily sprays in nose and throat work. It is also being used as one of the constituents in the now popular paraffin oil cold cream and has been used to some extent for internal administration in the treatment of chronic stasis. Being more limpid than the preparation preferred by Lane, it is more readily taken though greater care must be exercised in securing a sample devoid of the lighter fractions of petroleum distillates.

The best known of the proprietary products on the American market is liquid albolene.

[1] Randolph, N. A.: Ther. Gaz., 1885, ix, 732.
[2] Randolph, N. A.: Proc. Acad. Nat. Sc., Philadelphia, 1884, p. 281.
[3] Robinson, W. D.: Med. News, 1900, lxxvii, 56.
[4] Ewart, William: Brit. Med. Jour., 1902, ii, 1505.
[5] Schmidt, A. D.: Münch. med. Wch., 1905, lii, 1970.
[6] Tyrode, M. V.: Boston Med. and Surg. Jour., 1910, clxii, 673.
[7] In addition to the articles referred to in the preceding footnotes, the following are of interest in connection with this subject:
Editorial, Ther. Gaz., 1885, ix, 353.
Junker, F. A.: Med. Record, London, 1885, xiii, 506.
Editorial, Med. News, 1886, xlviii, 105.
Dunbar: Deut. med. Wch., 1896, xxii, 33.
Stubenrath, Franz Casimir: Münch. med. Wch., 1897, xliv, 639.
London Letter, Med. News, 1899, lxxiv, 504.
Hutchison, Robert: Brit. Med. Jour., 1899, i, 724.
Schlesinger, E. G.: Boston Med. and Surg. Jour., 1913, clxix, 14.
Lane, W. Arbuthnot: Brit. Med. Jour., 1913, ii, 1126; Proc. Roy. Soc. Med., 1913, vi, 49; Surg. Gynec. and Obst., 1913, xvi, No. 6.
Jordan, Alfred C.: Practitioner, London, February, 1913.
Chrysospathes, J. G.: Zentralbl. f. Chir., 1913, No. 45.

Johns Hopkins New Plan.

Securities valued at $1,500,000 have been presented by the General Education Board to the Medical School of Johns Hopkins University. This gift is to be known as the William H. Welch Endowment for Clinical Education and Research.

The actual transfer of the principal of this fund signifies that the organization of the Medical School will be so arranged that the entire income from this fund can be utilized for the support of full-time teaching and research departments of medicine, surgery and pediatrics.

The express proposal made by the trustees of the Johns Hopkins University was that in reorganizing these three departments, professors and their assistants should hold their posts on the condition that they become salaried university officials, and that they accept personally no fees whatever for any medical or surgical services which they might render.

The hospital wards and out-patient departments are to be under the control of the university medical or surgical teachers, but over and above their work in the public wards, the teachers are to be free to render any service required in the interest of humanity and science. They are to be free to see any patient they desire to see.

Patients, however, of the usual private patient type, will pay a reasonable fee to the university, rather than to the professors personally. The time and the energy of the professors are to be fully protected, not only because their salary eliminates financial interest on their part, but because they are themselves to become sole judges as to whether or not particular cases shall or shall not command their personal attentions.

In order that the time and energy of the professors thus safeguarded might be properly utilized under favorable conditions, the endowment was made large enough to provide adequate salaries to attract the ablest professors and also to provide them with assistants, well-equipped laboratories, books and other necessary facilities.

Simultaneously with the completion of the reorganization of the Johns Hopkins Medical School in accordance with this new plan, the university trustees have chosen Dr. Theodore C. Janeway, hitherto Professor of Medicine at Columbia University, to become Professor of Medicine of the Johns Hopkins Medical School, the position once held by Sir William Osler.

The chair of surgery at Johns Hopkins, under the full-time arrangement, is to be occupied by Dr. William S. Halsted, most of whose surgical career has been passed in the Johns Hopkins Medical School, where, since the establishment of the Johns Hopkins Hospital, Dr. Halsted has been its Surgeon-in-Chief and Professor of Surgery.

The chair of pediatrics will be occupied by Dr. John Howland, who was called a year ago from the Professorship of Pediatrics at Washington University, St. Louis, and appointed physician in charge of the Harriet Lane Home for Invalid Children, this institution being the pediatric clinic of Johns Hopkins Medical School.

Johns Hopkins will become the first medical school to be placed upon the full-time basis in all departments. A grant of $750,000 has been made to Washington University, St. Louis, and of $500,000 to the Medical School of Yale University, upon an understanding that they also reorganize their work so as to put their clinical teaching upon a full-time basis.

The full-time scheme is a plan to ensure to hospital work and medical teaching the undivided energy of eminent scientists whose efforts might otherwise be distracted by the conflicting demands of private practice and clinical teaching. The full-time scheme is an appeal to the scientific interest and devotion of the clinician, and it is significant that the first three full-time posts created have been filled by men of conspicuous professional standing, all of whom have made great sacrifices in order that they might enjoy ideal conditions for clinical teaching and investigation.

It should become of increasing consequence to the public that the training of those studying to become doctors should be in charge of the most competent men obtainable devoting their entire time to this work. Greatly increased efficiency and thoroughness should result, to the alleviation of suffering and the cure of disease.

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Intelligence.

Will it ever be possible to apply widely to socially active adults tests modeled after that of Binet to determine intelligence? We know very well that a man may be a great political leader or a highly successful financier, and yet have the most childish beliefs. A man may be a railroad wizard and yet believe in the weirdest things. Have we not known university professors of this type? An apparently fair degree of intelligence appears to be not incompatible at times with a belief in astrology (or in osteopathy). Think of the apparently intelligent people who profess to believe in that famous doctrine—malicious animal magnetism. And then the remedies for this state of affairs. Many people pin their faith to education. We have heard professors of sociology plead for education as a panacea. But many highly educated people are not very intelligent. As for medical education of the laity, what has resulted from that? Simply a keener interest in freak therapeutic proposals, or the adoption of dietetic and physical culture fads—usually making for the injury of the medically educated parties. Professional training itself will not do much for one who is fundamentally lacking in gumption. Surely it is unnecessary to dilate on this point, though we will say this much—that it is this very lack that accounts for much of our fool medicine. What we are doing is not all Hippocratic science and art. This is not a pleasant subject, but it belongs legitimately in the domain of pathology, and we conceive any phase of that to lie in our journalistic province.

The problem of mental defectiveness has very wide social bearings. Thus far we have touched but a small part of it.

As a case in point we cite the following from the *Interstate Medical Journal* for June. A Presbyterian minister, *aet.* forty-nine, through an odd process of reasoning, deduced a plan of treatment for his insomnia which he called "inverting." For twenty years this reverend gentleman had practised standing on his head for from three to ten minutes, if upon retiring he felt that the emotions of the day or preparations of the morrow would render sleep otherwise impossible. An analysis of the case by Carroll, of Asheville, N. C., showed the man to have been always below par mentally. What kind of religion is it reasonable to suppose this gentleman dispensed?

You have an "intelligent" patient. He or she becomes enamored of osteopathy. You discuss the subject dispassionately together. The intelligent patient admits that the spinal lesion "dope" seems far fetched in respect of some diseases, and also sees the limitations of such sectarian treatment when it comes to acute inflammatory rheumatism or spinal meningitis. You find that the intelligent patient reposes his or her faith upon the alleged fact that the osteopath achieves success; that his patients get well; and then various cases are particularized.

On the same principle of reasoning we ought to subscribe to a belief in fortune telling because it not infrequently happens that what the fortune teller predicts comes to pass.

It is the same type of "intelligent" patient who "falls for" all the freak cults, medical and spiritual.

And now comes Mr. Ford, of motor fame, prepared to spend millions on a scheme of his own for the cure of cancer.

The Sane Management of Tuberculosis.

We have been much interested in the attempts of Mays, of Philadelphia, to induce the profession to recast its ideas regarding the control of tuberculosis. He does not believe that consumption is contagious or infectious and adduces some ingenious arguments in support of his contentions. Thus he points out that so-called contagion is but seldom noted among physicians, nurses or others exposed in consumption hospitals, among married people when either husband or wife is affected, among the inhabitants of towns in which consumption hospitals are located, or among the members and servants of families who lodge and care for consumptives in mountain and health resorts. Mays believes that the disease is due to general unhealthful surroundings and he thinks the only sane way to reduce it is to adopt measures that prevent, or merely improve, general unhygienic conditions, without resorting to disinfection, registration, forced isolation, etc. Mays brings forth many statistics to show that the crusade has exercised no influence to speak of over the disease, and insists that even if we could separate all consumptives in closed institutions we would not be touching the real problem. He shows how the consumption mortality was reduced sixty-seven per cent. in three years in Santiago de Cuba through merely cleaning the place up upon the occasion of our military occupation. The negro race is also instanced as being now one of the most susceptible to the disease, although not subject to it in slavery times when its members took sole care of the white consumptives. The crusade, as we have known it, Mays thinks should never have been heard of, and he charges that its alliance with petty politics has been a wholly evil thing. The problem ought never to have left the hands of the medical profession. He

even goes so far as to assert that the longer the crusade lasts, in other words, the longer the adoption of efficient sanitary measures is put off, the more consumption there will be. We must pay more attention to curing poverty and less to "the swatting of bugs." "The prevention of consumption should consist of efforts to change the slum districts of every city, town and hamlet in our country; of work which enforces the laws of general, personal, domestic and public sanitation, such as nt is the bounden duty of every community to enact, and incumbent on every human being that lays claim to decency, to respect and to uphold. Shacks and hovels, misnamed homes, but unfit for human habitation, should be torn down; people should be prevented from living in cellars or so-called basements or in overcrowded, poorly lighted and ill-ventilated houses; means should be provided for obtaining properly prepared food, shelter, clothing for the invalids, and the poorer working classes; and convalescence from serious illness or accidents or from what seems a trivial cold or cough, should be supervised by careful medical skill." (*N. Y. M. J.*, July 4, 1914.)

We are in entire sympathy with Dr. Mays' program, but we fail to see how he has invalidated the causative relation of the bacillus of Koch to tuberculosis. There is nothing new or mystifying in the relative immunity of vigorous, sanely living people who are not residents of hovels and cellars. The organism gets a foothold whenever resisting powers are reduced by the conditions mentioned and indicted by Dr. Mays. His own arguments only serve to clinch commonly accepted truths. Exposure to tuberculosis, even if it be very contagious, need not be feared if those exposed are healthy and cleanly. It becomes infectious in a ratio proportionate to lessened resistance. Probably it is actually contagious where those exposed are debilitated by reason of bad hygiene.

Mays, then, postulates consumption to be the result of "constitutional error" and not the result of contagion or infection, and pleads that our treatment should be addressed to the former factor. While we do not place the same reliance upon stimulants, tonics, hypophosphites and cod liver oil that we formerly did, it cannot be affirmed that we are neglecting building up methods while pursuing what Mays calls an *ignis fatuus*. How can the older building up methods be compared with what we are doing to-day in the case of the few fortunate recipients in the way of sanely applied hygiene?

Nevertheless we are in hearty sympathy with Mays' condemnation of the persecution that has been meted out to the consumptive by reason of the principles underling the crusade of late years, and we align ourselves with him in his affirmations that all our efforts are futile so long as sociologic and economic reforms are not instituted. Our social palliatives are a curse, and consumption will flourish so long as the present ghastly social order continues unchanged at the behest of its smug sponsors of the master class. The sane management of consumption resolves itself into the sane management of our pressing social problems.

Vacation Traumatisms.

What might be called vacation traumatisms are now in merry process of infliction. Typhoid is being eagerly acquired and hearts already damaged are being further impaired through ill-advised exertions in the water and elsewhere. If we could match the physical conservation that comes to some against the physical injury that is the lot of others, how would the balance lie? The holocausts occasioned by the automobile must here be reckoned with. How about the consumption of liquor and tobacco at the summer resorts? Do most men overdo these things on their outings? If so they must be added to the summer traumatisms.

Upon the whole is it not probable that certain of our traditions concerning vacations are mere superstitions? Somehow or other, we think, the outing must benefit, yet we have no really scientific data upon which to base such a belief. The belief may well be unfounded.

An honest man wrote a letter to the New York *Sun* the other day in which he confessed that he was enamored of the noises of the city. This confession elicited others. But we have a tradition that noises ought to harass us, and most people are so faithful in their adherence to every social superstition that few would affirm contrary experience. Perhaps the very silence of the rural districts is a traumatism to many folks who don't know it, wouldn't entertain such a theory and are convinced that city noises are to be escaped from by any hook or crook, which last may be a mere obsession.

American Medicine's Gold Medal.

The trustees of the *American Medicine* gold medal announce that the medal for nineteen hundred and fourteen has been conferred upon Doctor George W. Crile, of Cleveland, Ohio, as the American physician who in their judgment has performed the most conspicuous and noteworthy service in the domain of medicine and surgery during the past year.

Amen, say we. There could be no more fitting choice. And it is well that we should signalize, honor and applaud the work which sets at naught the vile mouthings of the lying wing of anti-vivisectionists. For he who has done the most beneficent service for suffering humanity has been the particular mark for sentimental blackmailers, and his brethren of the medical profession should in no uncertain way make its estimate of that service known.

Alleged Evils of the Workmen's Compensation Act.

Certain evil effects of the workmen's compensation act are being descried. Perhaps some are more fanciful than real. Thus it has been suggested that needless operations may be performed for the sake of the fees. If the profession is guilty of all the moral shortcomings attributed to it by the gentleman who wrote the article on medical economics in the *J. A. M. A.* of July 18 there may be something in this suggestion. Then it is being said that employers or insurance companies will find ways of dropping married men, because under the law they will be more highly compensated than single men. It has been charged already that the physical examination of the men, instituted by some companies, while ostensibly for the purpose of conserving efficiency, really has as its object the dropping of married men. Doubtless some of the allegations that are being made are made out of whole cloth by parties interested in the repeal of the act, and are only intended to alarm and disaffect the workmen. Nevertheless it behooves us to study the practical sociological effects of this new law, in operation since July 1st.

An uncommon cause of an acute abdominal inflammation is the acute hydronephrosis produced by kinking of a ureter over some abnormal branch of the renal artery, or by the existence of a pinhole communication between the renal pelvis and the ureter.

Medical Editorial Table

Industrial Insurance.

As soon as any system of industrial insurance has been in operation long enough to acquire definite data as to the cause of disease, it is inevitable that systematic efforts for the prevention of disease will follow, just as systematic efforts for fire prevention have followed the development of fire insurance. This involves the detection of incipient defects and diseases among workers and the prevention of the development of diseased conditions by proper precautionary measures. This can be secured only by frequent periodical examinations of employees and frequent inspection of their environment. Not only bad shop conditions but the total environment of the worker must be included. This means that the unhygienic home as well as the unhygienic workshop must be found, recognized and corrected, and the entire surroundings of the individual subjected to careful scrutiny. The inauguration of such a system, no matter on what basis or exactly at what point the dividing line would be drawn between the insured and the uninsured, would result in the establishment and maintenance of suitable hygienic standards of living for all classes. Enormous economic gains would result through the reduction in the loss of working time, the saving in expenses for medical attendance, nursing, drugs, etc., and the largely increased wage-earning capacity through increased efficiency. Labor unions and workingmen are coming to realize more and more that sound physical health is the only capital the laborer possesses, and the belief is growing that it is as much the duty of the state to protect and conserve the capital of the laborer as it is to protect the capital of the employer. When labor unions fully realize the importance of this fact, the workingmen of the country will demand that the state take suitable measures for the protection of their health.—(*J. A. M. A.*, July 4, 1914.)

Amebas and Pyorrhea Alveolaris.

Smith and Barrett have made a somewhat startling announcement with respect to pyorrhea. They have found amebas present in scrapings from the pyorrhea pockets in about fifty cases, while in the gum margins of persons free from pyorrhea alveolaris they have discovered no such organism. The results of some therapeutic trials have been so distinctly encouraging that the authors decided to present a preliminary report in order that their findings may be further investigated by others. Having in mind the amebicidal action of emetine hydrochloride in amebic dysentery and abscess of the liver, the effect of this drug was tested in the patients under observation. No other treatment was instituted; the roots of the teeth were not even scaled. A 0.5 per cent. solution of emetine hydrochloride was injected locally into the apical pocket, filling it with the fluid as the syringe needle was withdrawn. This treatment was carried out every day or every other day. The improvement in the patient was marked; suppuration ceased and the gums rapidly assumed a healthy appearance; and there was simultaneous improvement in systemic symptoms. The authors suggest that even if amebas are not the sole cause, they may exercise the function of conveying bacteria to the diseased tissues. If this is the case, one may permit one's imagination to wander throughout the whole gamut of infections and dream about the possibilities of animal parasites as factors in other infections, especially in the carrier state. We lack an explanation of the fact that the chronic intoxications accompanying pyorrhea alveolaris may be rapidly improved by the administration of appropriate bacterial vaccines, but local conditions must receive local treatment. May it be that the amebas release the bacterial poisons, while protecting a sufficient number of bacteria to continue the infection?—(*N. Y. M. J.*, July 11, 1914.)

Treatment Preliminary to Anesthesia.

We have been convinced for a long time that prolonged starvation prior to the administration of an anesthetic was unwise, and that if surgeons would see to it that patients had their tissues well stored with foodstuffs before operation they would pass through the anesthesia and the operation with comparatively little difficulty. In much the same way that it has been proved that the acidosis of diabetes is to be chiefly combated by the free administration of a readily-assimilable carbohydrate, so can postanesthetic toxemia be put aside by giving the patient easily assimilated forms of starch up to within a few hours of the operation. Barley gruel, wheaten gruel, rice gruel (not broth), or thin corn-starch may be used for this purpose, hurrying its absorption by adding to it, as it is taken, taka-diastase or pancreatin. If this is done nourishment can be given within three or four hours of an operation without increasing the tendency to vomit, and with a strong probability that the liver and muscles will be the better stored with glycogen. Opie and Alford found that chloroformed animals fed on meat and fat readily died, whereas animals fed on carbohydrates survived, and showed scant necrosis of the liver. Fats increase the susceptibility of the liver to the pernicious action of chloroform because the latter is soluble and diffusible in the former and is therefore fixed by it in the liver. A carbohydrate protects the liver against disaster. These experimental results only confirm large clinical experience.—(*Therapeutic Gazette*, July 15, 1914.)

The Value of Cool Air for Fevers of all Kinds.

O. H. Brown is an advocate of what he calls "the continuous cold air bath," by which he means keeping the room temperature down and removing sufficient bed clothing to permit radiation. He states that though the patient may complain temporarily he soon becomes comfortable from the adjustment of skin circulation to the conditions. If too much covering is removed the effect is the same as a cold bath, but by proper regulation the patient loses heat continuously and the body temperature remains at a low level without baths. This method is more efficacious and less disagreeable than cold bathing. Copious draughts of cool water and cracked ice *ad libitum* are also advised as rational helps in reducing temperature and removing soluble toxines by way of the kidneys.—(*American Medicine*, June, 1914.)

Seborrhea.

Massage the scalp each night with the following ointment:

℞ Resorcini,
Ichthyolis,
Hydrargyri oxidi flavi,
Sulphur precipitatum,
Pyrogallol, āā gr. xv. (1.0)
Oleum cardinum,
Lanolin,
Vaselin, āā ℥iiss. (10.0)

The scalp should be shampooed the next morning.

(*Journal de Médicine.*)

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

The psychanalyst, says Burrow (*J. A. M. A.*, June 13, 1914), aims to divest the personality of its artificial mantle, to make the patient view the natural man. The husks of pretense are stripped away and the contour of the actual looked upon daringly and unafraid. The world must be looked upon as it is, and not as the individual wishes it to be. The patient must make an honest and patient study of himself.

In other words he must be himself and not an artificial man.

This would surely be fatal to the egotistic accretions of certain prominent gentlemen of our acquaintance and would divest them of all that makes them picturesque figures on the social horizon. Instead of Don Quixotes there would be horribly commonplace personalities. We hope that the Don Quixotes will never fall into the hands of our matter of fact psychanalysts. We trust that they will continue to charge windmills and furnish material for classical literature. Let us pray that they will continue to explore Brazil and enact the rôles of demigod and demagogue.

Dr. Burrow's ideas are perfectly sound, but after all the world won't permit us to be our honest, commonplace selves.

"The increasing demand of the foreign mission work for women trained in nursing and medicine, reacted helpfully upon the struggle then in progress at home for the admission of women to the medical profession. While the Philadelphia Medical Society was excommunicating some of its members for lecturing in a woman's medical college, the experience of men in the evangelization of the heathen had forced upon them and their boards of management the conviction that 'the heathen woman drowned all ideas'; and that 'the citadel of heathendom was in the home, which could only be taken by the assault of women.' This imperative need created a demand for trained women. As Helen Montgomery puts it, in her *Western Women in Eastern Lands:* 'Whether there were to be women physicians in America was a matter of interest; but in Asia it was a matter of life and death. The women of half the world were shut out from medical assistance unless they could receive it at the hands of women.' Here was a field of high professional labor which men had perforce to yield to women. While the clergy at home were still preaching that medicine was outside the sphere of women; and the medical profession itself, with greater vehemence and less excuse, was denying them opportunities for study and practice, a few young women began to prepare themselves for this service. Clara Swain, the first fully-equipped medical woman to be sent to India in 1869, suffered to the full all the hindrances set by prejudice in the path of the unusual woman. Upon her fell the combined resistance of men physicians, of the conservatives in the churches, and of a society still permeated with the conventional views of feminine limitations."—Mary Roberts Coolidge.

And to-day women are sharing with men every phase of medical activity, even giving up their lives at times in line of duty. Thus was chronicled the death recently of Miss Marion Chelton Mabie, a research worker who was studying diphtheria organisms in the laboratories of the Polyclinic Hospital in New York, with a view to the elaboration of an improved serum. The diphtheria from which she died was supposed to have been contracted in the laboratory. Surely the old days of which Mrs. Coolidge writes have passed away forever and have left no vestige save in the records of former times as they are laboriously set forth by the writer concerned with sociological questions.

According to recent press reports a woman professor in some American university is advocating that clothes be discarded and that we become accustomed to viewing the beauties of the human body without pruriency. But, sad to say, there would be more ugliness than beauty. Would there not be many who would be thrown into a panic at the prospect of revealing their shortcomings physically who now make a more than presentable appearance? Some rather stunning people would be revealed as frights if they appeared nude. Dress permits of many deceptions.

No, we haven't laid ourselves open. Our remarks may be applied to either sex.

Seriously, however, and aside from the matter of beauty, we would probably be healthier if we did not stick so closely to the conventions of civilization. We ought to be tougher and more resistent, and it would be well if we could rid ourselves of our dead-white and clothes-smothered skins.

Don't the physiologists tell us that the skin is a respiratory organ?

Once more the dance. Since the MEDICAL TIMES published its dance symposium the Farabee expedition of the University of Pennsylvania has reported that wild Indian tribes of Brazil were the originators of the maxixe. This dance was originally the "courting dance" of the Indian belles and their lovers. The recognized maxixe costume consisted of a tiny apron. In short, the maxixe was a dance of uncivilized people.

Well, is it not still a dance of uncivilized people? Could not a good deal be said in the affirmative in a debate on this topic?

It is perfectly natural for us to be dancing barbaric things like the maxixe.

There is something the matter with the gumption of anyone who can't figure out why this sort of thing is going on in every music hall, roof garden and ballroom from New York to San Francisco.

We will not stop being barbaric until we stop worshipping Mammon. Then instead of the maxixe we may have an American art, an American literature, and a normal interest in things spiritual.

Advocating the socialization of the medical profession, and writing in the *J. A. M. A.*, of July 18, a distinguished surgeon remarks that one of the saddest things he sees in medical work is the alert, well trained young man, fresh from college, laboratory and hospital —with the vision of life before him—enthusiastic with his knowledge of the possibilities for helpful human service in his profession, who later, thrown into the maelstrom of competition, with the necessity of commercializing the sacred art of conserving human life, degenerates into a humdrum thing of pills and potions, joins clubs or a church as an economic enterprise, and rushes hither and thither in a motor-car in a community which measures success largely by the standards of business.

But perhaps this great thinker's "district sanitarians" of the socialized profession of the future may

have to rush hither and thither in motor-cars in order to cover their territory and attend their charges.

We have never thought of the motor-car as a reprehensible symbol. Somehow or other it has been one of the agents of efficiency in our minds.

Just what is in the back of such a writer's head? What is the genesis of his particular grouch?

"If the mysteries of disease and the secrets of health be beneficently revealed in the near future it will be only fair to recognize that it is not the superwealth of our national government nor yet that of the States that has provided the ammunition for the quest of supreme importance to humanity. It might be interesting to speculate on what would happen if all the money now spent on trust hunting and muckraking were diverted to the purposes of the Rockefeller Institute."—(New York *Sun*, June 29, 1914.)

If we ever do secure a decent social order it will indeed be possible to use the national revenues for the purposes that the Rockefeller Institute stands for, but we can't divert funds under present rotten conditions and permit our modern buccaneers of big business to carry on their piracies unmolested, for they are the very people who are responsible for much human disease. After the economic causes of disease are removed we won't have so much use for the Rockefeller Institutes anyway, for the removal of such causes is in itself preventive medicine.

"The normal woman, therefore, is a strongly marked woman with a strongly pronounced structural feature of man, and the normal man a strongly marked man with a slightly pronounced feature of woman; woman is therefore more man than man is woman, and these facts are consistent with the sexual psychic and intellectual qualifications and potentialities of both. All these things have a bearing upon a great question of the day. I refer to the invasion by woman of many forms of business, professions, trades, and heretofore recognized prerogatives of man. I refer in particular to the suffragette feminist movements. Now, while I do not mean to state that all suffragettes are inverts or in fact that any of them are, I do believe that the fact that women in general to-day are invading the prerogatives of man shows that there is an impelling influence behind them. I am aware that they hold that it is the economic conditions in society and business, the high cost of living in general and particularly in married life, that drive them to this pass. I think possibly likewise we may cite the higher education of women—all of which have produced the liberation of her sex, as she describes it. I do not deny that these factors have something to do with the situation, but I believe it only excites, brings forth, and accentuates the original cause, and that cause is a cellular one lying in her natural structural bisexuality, which in many of them is accentuated. I do not deny that some of these women are not masculine beyond the normal and that they have been led away through their feminine love of novelty, into an association with their stronger sisters, and I believe that many likewise are impelled by that incomprehensible complex of symptoms known as hysteria, of which vanity and love of self exploitation are symptoms, yet I repeat I believe that exaggerated masculine traits in their structural and psychic being is the original cause, and that the struggle for existence has made these qualities more obvious. I do not include in this description many noble women who have been driven into business by misfortune. It would be most interesting, but I fear impracticable, to make a biological study of this great and growing element in our social system. I cannot conceive how the violent and vicious methods employed by many can be explained in any other way. Their acts are certainly not in any sense feminine. It may be argued that this species of violence has been characteristic only of women in England, but my reply is, that the social conditions of England appear to be different as far as women and their rights are concerned from those of many countries, and since human nature is the same everywhere, it is likely that if the same social conditions existed here and in other countries, as in England, we should be witnesses of similar exhibitions of violence. If we are to read the history of the future from the pages of biology, it seems that feminine invasion of man's prerogatives by woman has come to stay, and the only remedy, if there is one, is to return to the social conditions of former years or to modify things so that their native masculine qualities may not be called out in those who are distinctly feminine, or exaggerated in those whose masculine nature is overpronounced. It is doubtful if this will ever be done.

Now why is it that men do not by some concerted act invade the prerogatives of women? While they may have done so to some extent in the making of feminine apparel, for example, it is safe to say that they have not done so in general, and it is equally safe to say they never will. To this the male will reply that he already has all the rights, and that he does not need to invade woman's realm for livelihood or support; this reason is in a measure good, but man, by reason of the slight feminine touch which he has in him, has no such impulse, certainly not in the overwhelming majority. If any set of men should attempt such a thing they would certainly be ostracized, scattered and dispersed incontinently by strongly sexual normal men. A womanish man is the detestation of men, but masculine women seem to be borne with patience and even consideration by women in general, even by some men. If the contention set forth in this paper is correct, there must be more masculine women than feminine men in the world, and in the nature of things it should be so."—(J. Herbert Claiborne, M. D., in *New York Medical Journal*, June 13, 1914.)

A Psalm for Doctors.

The teacher of false ethics is our master; we know only want.

He maketh us serve the dispensary gratis; he leadeth us likewise into other fields of free service.

He thinketh not of our interests; he leadeth us in paths of sacrifice for his vanity's sake.

Yea, though we ask for the economic products of our labor, we receive only titles; for thou art with us; thy retainers they impress and flatter us.

Thou preparest a dinner before us in the presence of said retainers; we are crowned as altruists; but the cost of living proceedeth apace.

Surely hardship and hypocrisy shall follow us all the days of our lives, if we continue to give something for nothing forever.—(*Long Island Medical Journal*, July, 1914.)

The infections of the genito-urinary tract, such as nephritis, pyelitis, cystitis or in endometritis and salpingitis, bear in mind chronic intestinal stasis as a possible causative agent.

EDITORIAL SIDE LIGHTS ON THE EUROPEAN SITUATION.

"The more I see of women, the better I like dogs," said a pessimist with defective digestive apparatus.

"The more I see of foreign lands the better I love my own country," is the sentiment of every well balanced and well ordered American.

There is none so narrow as not to give other countries their full share of credit, but foreign travel serves to emphasize in one's mind his thankfulness that he was born an American and lives under the enlightened rule of our particular form of government.

When we decided to face the criticism that is always meted out to those who write on that hoary-headed bromide, "When I was in Europe," we had planned to give our impressions of the Clinical Congress of Surgeons, which had such an auspicious meeting in London, July 27 to August 1, but the kaleidescopic change in European affairs in this memorable month of August, 1914, compels us to leave the description of the Congress to our weekly contemporaries and to set down, if we may be permitted, our observations of the early days of the great European war.

In company with thirty or more medical men we departed our hospitable shores early in July on the always comfortable *St. Paul* of the American line. Wars and rumors of wars were unthought of and without fear or misgiving we bade our native land adieu and turned our faces to the eastward for a real holiday. What changes have taken place! Today (August 14) we are in the middle of the North Atlantic, fleeing from some unseen but much feared wrath and making for some friendly port, we know not what. So long as it is on North American shores we care not its location. Sailing at night with every port hole blanketed, deck and mast lights out, we plunge along through heavy head seas like a monster phantom. We are warned to remain quiet if on deck and those of us who brave the elements and are not afraid of the driving rain and blinding sheets of spray that hurtle themselves from stem to stern, see triple sets of lookouts, keenly vigilant and ever on the qui vive. Our wireless is hushed lest it betray our position to an enemy believed to be not far away. In every corner are little knots of passengers who are discussing the possibility of capture and our disposition by the captors. What a marvelous change from our outward voyage. Then the spacious decks were cleared at night and with the moonlit sky as a canopy the young people glided through the mazes of the maxixe, the hesitation and indeed the old-fashioned waltz to the strains of the dance-inspiring music of the ship's orchestra. To-night the orchestra is playing down in the saloon, while every port, door and window is closed tight. We little imagined when we gazed over the *St. Paul's* rail and watched the phosphorescent beauties of the gulf stream on those wonderful nights that in a month we should be scurrying away from a hostile fleet, with no thought save a reunion with those we love.

Of our medical impressions of Paris, the beautiful, but now the desolate, we will speak later. Amidst the gaiety of that charming capitol, we gave no heed to the marching hussars, cuirassiers and chasseurs á pied who were constantly in evidence en escadrons et bataillons, for similar scnes have often been witnessed on previous Parisian visits. We read of the grumblings of the wardogs in Servia and Austria, but heeded them not and it was not until we read a bulletin posted in the Casino des Villa Fleurs at Aix-les-Bains that war seemed a possibility. Even then the real import of war did not strike us. Sitting on the terrace at the Casino, listening to the wonderful music of the Italian orchestra, war seemed a million miles away. But one of our French medical friends brought out a bulletin showing that Austro-Servian hostilities had commenced.

When we reached Lucerne we found that many of the hotel waiters, being Austrian reservists, were joining the colors, and the Palace, Schweitzerhof and National hotels were feeling the effects. A few days in Switzerland convinced us that we had best take the advice of the French gendarme and "circulez."

It was while in the beautiful city of Frankfort, a place where mediaevalism and modernism are so delightfully blended, that we learned that war between Germany and Russia could only be averted by a miracle. Even then, no one, outside of those "on the inside," believed England and Belgium would be involved, and even the participation of France was only a possibility.

We watched the preparations for war with eager interest. All day we saw soldiers, soldiers, soldiers. Fine, upstanding young chaps, clean cut and erect, they marched by as gaily as if on their way to maneuvers. For the nonce war lost its grimness when one looked into the happy, smiling faces of those rosy cheeked German lads. Infantry, cavalry, field artillery in countless array, passed to entrain. They were on their way to the Russian and French frontiers and sad it is to think that some of those brightly uniformed, happy-go-lucky boys are among the 25,000 Germans who were sacrificed in the terrific fighting around Liege.

Deeming it advisable to leave Germany before any actual declaration of hostilities we boarded an express steamer at Mainz for Cologne, only to learn after sailing that Germany had declared war on Russia that very day and that our steamer was the last which would go down the Rhine.

The voyage along that wonderful river is memorable. Not for its natural beauties, the glorious old castles that surmount its peaks, or the ghost-haunted ruins, whose walls, if they could speak, would reveal almost unbelievable tales of war, rapine, plunder, love and intrigue, not for the beautiful views of hill and valley, of vineyard and quaintly nestled village, but because stern-visaged war was brought directly to our attention.

On an island below Mainz were mounted peculiarly shaped guns, especially designed to shoot aeroplanes. Every island in the river was carefully guarded. At either end of every railroad tunnel on each side of the river were infantrymen, who waved a genial salute as the steamer sped by. All quays were held by troops and every bridge had its full quota. The signal corps could be seen stretching wires and field artillery was being mounted in advantageous positions.

At Coblentz and Bonn companies of soldiers were drawn up on the tops of buildings, intently gazing heavenward. They were watching for hostile aeroplanes, recognizing that they would play an important part in the war of to-day.

At Cologne soldiers were posted in the topmost peaks of the cathedral towers scanning the skies for French airmen. Crowds of people thronged the square about the cathedral, with necks craned, as if to lighten the labors of the "rubberneck" soldiers.

It was in Cologne that our troubles commenced.

Much criticism has been directed against German civil, military and railway officials in English and American papers by tourists in Cologne. We must confess that while we were given much misinformation, it was unintentionally imparted. It was a time of greatest stress. Germany was at war with one great power and on the verge of a conflict in which its very existence is seriously threatened. The military was in control of the city and the railways. Confusion reigned and all men were irritable. We found that questions civilly asked were civilly answered and that the much complained of arrogance on the part of German officials was often due to incivility on the part of the tourist.

We were advised to abandon any thought of reaching London via a French or Belgium port and to go to Rotterdam at once, in view of the probability of Holland's neutrality. To our consternation we learned that all passenger trains would be cancelled that night in order to make way for troop trains. With the aid of an intelligent hotel porter we fairly fought our way into the passenger station. It was packed with a sweating, swearing mob, representing almost every nationality, each person wildly anxious to leave the beautiful empire, whose grain-laden fields and wonderful vineyards had only that day seemed the very harbingers of peace. Despite wrong directions given us, the faithful porter found a train just pulling out for Amsterdam. He pushed us aboard, even though it did not seem as if an infant could squeeze in to that crowd fourteen-carriage train. Men were hanging on "by their eyebrows," as it were, and despite the possession of a first class ticket we were delighted to stand up in a third class corridor tightly wedged in between two odiferous Dutch women of generous proportions.

The beautiful scenery lost its attractiveness and instead of "sunsets and hill and dale" our mind wandered back to our childhood's teachings—"Cleanliness is next to godliness," and we wished there were less godliness in Holland.

Notwithstanding these olfactory afflictions we were glad to be on our way and maintained a meek and humble attitude. The conductor advised all refugees to make for Rotterdam instead of Amsterdam, a suggestion with which we eagerly complied. The scheduled time between Cologne and Rotterdam is four hours and fifteen minutes, but it took us over fourteen hours of the most unpleasant travel.

We made good time to Dusseldorf, where the train was searched by German soldiers for any Germans who were attempting to escape and thereby evade military duty. Upon reaching the bridge crossing the Rhine, we were held up two hours. The bridge had been mined and it was necessary to disconnect the electrical connections before we crossed. As our train stood there, guarded on either side by soldiers, train after train of empty passenger and freight cars passed us going toward Cologne. Holland, as a neutral country, was sending all German cars out of its territory. When the bridge was safely passable, we were ordered to close every window and not to look out. We slowly crossed. Disregarding instructions, we kept our eyes wide open and saw that the bridge was heavily guarded.

At the last German station before the Dutch frontier, we were hustled out, with such baggage as we had (all trunks had been left in Cologne) and compelled to show our passports or to identify ourselves as citizens of some country other than Germany. After an interminable delay we were taken to the Dutch frontier where our baggage was examined and we were loaded on to third class cars, resembling some of the poor Jim Crow cars in the South, and started for Rotterdam. Our particular little six-seated cattle car, in which were at least forty people, mostly women, was labeled Rotterdam, but at 2.30 o'clock in the morning we were unloaded at Utrecht and told we would get a direct train to Rotterdam in an hour. That hour was extended until it reached 7 o'clock. Meanwhile we looked over the town. When the train pulled in, we promptly boarded a first class carriage, determined to get some of the value of our ticket, but a Dutch soldier told us in his best Dutch that the train was for soldiers only. We professed complete ignorance of that awful conglomeration of grunts, groans and gurgles denominated Dutch and sat tight and finally "got away with it." A short ride and another change and still another, but Rotterdam was finally reached. We had an excellent opportunity of observing Dutch landscape. Many of the canals are covered with a thick green scum and the wonderful Holland of story and picture fades into insignificance at the actual sight. We prefer our Holland on Delft china.

Rotterdam was all excitement. Hostilities had denuded the hotels of help. The manager of our hostelry was in the German army and the assistant manager in the Austrian. The chef was fighting for France and most of the waiters had joined the colors.

A woman and young boy were the executive staff and chambermaids were waiting on table. The general staff of the Dutch army had quarters in the hotel and their pretty uniforms were the only bright spots in a gloomy, wet and desolate scene.

Learning through the American consulate that the steamers to England would shortly be cancelled, we decided to take the boat from the Hook of Holland to Harwich that night. She sailed at midnight and to make certain of a berth we took an early train to the Hook and at 6 o'clock took up position near the gang plank. At 8 o'clock when passengers were admitted we made a hasty entrance and by rare luck obtained a berth. At midnight over 1,000 people were crowded on a vessel having accommodations for 600, while 400 more were left on the quay, being unable to even get aboard.

Men, women and children slept without mattress or covering on the decks and in companion ways, but they did not murmur, for they were on their way home.

Early next morning we were off Harwich. The harbor was mined and a government pilot boarded our ship and pointed out the way to our quartermasters. A formidable fleet of cruisers and destroyers, headed by the Amphion, later sunk by a German floating mine, was drawn up outside the harbor, while inside were many torpedo boats and submarines, ready for instant service. The fortifications were heavily manned and the town of Harwich was alive with soldiers and sailors. The North Sea is expected to be the principal scene of naval action and England has made every preparation at Harwich and her other North Sea ports.

London showed scenes of great activity. The army was being mobilized and soldiers were everywhere. England declared war on Germany while we were there and then came the call to arms. Lord Kitchener asked for 500,000 men and the response was instantaneous. Men in every walk of life responded. Professional men, artisans and clerks stood shoulder to shoulder. All were eager for the fray, for each man realized what was at stake.

The Prince of Wales asked for contributions for the families of those who would be killed and wounded in the war and on the first day $1,000,000 was subscribed.

Parliament voted $100,000,000 for the opening expenses of the war without dissent. There was no division. There were no political parties. Irishman stood by Englishman, Liberal by Conservative, Nationalist by Ulsterman. England needed them and all differences were buried. Never has a finer example of patriotism been seen in any land.

When we left England, physicians were leaving their practices and volunteering, women were organizing nursing corps and sewing classes, noblemen were giving up their castles for hospitals and their yachts for hospital ships and every plan was being made for the husbanding of all resources.

England and indeed all Europe realizes that as a result of the war the civilization in the vanquished countries will be retarded for fifty years. Their commerce will be ruined, their manhood sapped, their credit impaired and their prospects blighted.

War, whatever the result, will change the map of Europe. Teutons fear a dominating Slav empire. Slavs look askance at German ambitions. Anglo-Saxons say they cannot permit the rise of another Napoleon.

It is too early to prognosticate the result of this horrible war. If some pacific methods do not obtain soon (and such an event seems out of the question at this time), the world will witness the most awful slaughter in its history. Hundreds of thousands of lives will be sacrificed and billions of dollars will be cast into the blood-lined melting pot.

And what for?

We talked with many men in France, Germany and England, soldiers, officers, physicians, lawyers, priests, merchants and workmen and not one man desired war. Their countries were more prosperous than ever, business had never been better, crops were promising and every outlook was of the best.

Suddenly all Europe is plunged into war. Shops close, wheels cease their revolutions, the farmer lays aside his harrow and the workmen his tools. Bugles sound and great armies gather. Women weep as they give up their husbands and sons. Children wonder at it all, and wonder more when upon their childish intelligence is borne the fact that they are fatherless. Famine stalks and pestilence is abroad in the land. Our boasted civilization halts, as brother fights brother.

And what for?

Our surmises are but guesses at best.

Having seen the grim spectre of war rear its hydra-headed form and trample under foot the wishes and hopes of mankind, is it any wonder that those Americans who have witnessed the prologue to this world tragedy reverently kneel and thank an all protecting Creator that their fair land is exempt, that political ambition plays no part in the policies of the country of their birth?

We shall be onlookers in this horrible slaughter of the innocents, but we hope we shall not be participants. Our newer civilization must march on triumphant and we must give succor to our brothers across the seas.

H. S. B.

The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

THE RELATIONSHIP OF FACTS.

A nexus or relationship of facts is an object of inference, of induction, not of preception, and is revealed in the observation of the order in which the facts appear.

From the *present history of the patient*—his subjective complaints, general appearance, objective signs—we infer the pathologic process in situ and in flux, the pathologic anatomy and physiology, the *diagnostic relationship* of the subjective symptoms and objective signs, the clinical facts at issue. For this determination, a knowledge of anatomy, physiology and pathology, general and special, is requisite.

From the *past history of the patient*—the prodromata, habits of life, previous diseases—and from *his family history*—the antecedents of his parents and relatives, we infer the *etiologic relationship*, developmental, traumatic, infectious, of the subjective symptoms and objective signs, the clinical facts at issue. Necessary antecedents are causes. Predisposing antecedents are occasions. Other antecedents are accidents. The single sequent of a single antecedent is a consequent. For the correct determination of etiologic factors, a knowledge of the possible effects of antecedents is requisite.

From the *therapeutic management* of the case under consideration, we infer the indications that were taken for treatment; but only from the actual symptoms, signs and antecedents are we to infer the pathologic indications—vital, remedial, palliative, curative—for the therapeutic applications made; only from the known possible effects of the therapeutic applications made are we to infer what therapeutic method was represented in those applications; only from the daily course, the termination and result of the treatments given, are we to infer the *therapeutic relationship* of the internal and external therapeutic factors at issue: the physiologic organization in a state of reaction or reactibility—therapeutically sufficient, insufficient, perverted, in abeyance; the therapeutic measures—hygienic, surgical, medicinal elements, imparting or not imparting to organic reaction and reactibility the necessary power for automatic permanency. For the correct determination of therapeutic factors and methods, a knowledge of the possible effects of therapeutic measures is requisite.

A constant relationship of facts in space and time represents a law. Laws are abstractions explanatory of the underlying particular and general facts.

For a science of medicine, as for any other science, we must have laws as points of departure. Without such laws, there can be no synthesis of medicine, no science of medicine.

JAMES KRAUSS, M. D.

Notice of Meeting.

The sixth annual meeting of the American Association of Clinical Research will take place under the presidency of Leonard Keene Hirshberg, M. D., at Baltimore, on November 5, 6, 7, 1914. For applications for membership and program, address the permanent secretary, James Krauss, M. D., 419 Boylston street, Boston, Mass.

MAKING RED BLOOD.

FREEMAN ST. CLAIR HITCHCOCK, M. D.
MEMBER AMERICAN ASSOCIATION OF CLINICAL RESEARCH.
New York.

Ordinarily it is not everyone who knows how to handle electrical machines. But for the universal good of countless sufferers, there is happily no longer the necessity for electrical knowledge, in order to relieve pain and disease with the most efficient form of electrical treatment that could be hoped for at the present writing.

That the current which the author has developed, seems to approach very closely the demands of cellular performances and needs, has been borne out through some highly interesting research work conducted both in the offices of the author and in the laboratories of Mr. H. H. Tebault of New York City. That the authenticity of the statements herein published may be fully corroborated, the Practitioner's Laboratory is cheerfully named by the author as the medium of such investigation. Neither the physicians in the laboratory nor the author himself ever hoped for such encouraging results as have been found under the closest scrutiny. The number of slides counted per specimen have exceeded by far the usual demands.

The current used is a new and peculiar type of very high frequency, so devised as to flow unfelt through any portion of the body, and operable according to the author's arrangements, through machines which may be handled by even the most nervous individuals. Indeed, the author's own little girl, *aged four*, has treated herself for whooping cough, dispelling the whoop in a day and a night and loosening up, finally clearing up her own remaining bronchitis.

Little Bobbie places the tin placques upon her chest and back; lies upon one and holds the other with a towel. She then plugs the wires into the machine and turns on the current, which she strengthens or weakens at will. When she thinks she has had enough she turns off the machine. She couldn't get hurt.

Until she was made to try this machine she was always convulsed with fright at even the thought of an electrical treatment. In fact, those occasions probably developed her lung power not a little. Barbara has witnesses.

Let us see then what a *tubercular* subject could do *for himself*. For the treatments are the same as for bronchitis or whooping cough.

It is a peculiar feature in the regulation of tissue abnormalities that one type of treatment alone has the happy faculty of so adjusting conditions of the body that a natural equilibrium may be perhaps most closely approached through this method, no matter what may be the individual poise.

For instance, whether the case be one of agitation, excitement, great tension, congestion, atonicity, anemia, depression, inertia, incoördination, numbness or *pain*, it apparently adjusts itself more rapidly or more perfectly under this one treatment than other methods would tend in any way to accomplish.

This means that for such an insidious disease as TUBERCULOSIS itself, there is at hand a means of relief without any danger, or even any unpleasant reaction.

It means that without any risk of operation, tubercular glands of the neck can be successfully handled. That the bacilli are going to be killed and that the indurated masses are going to be softened until a natural glandular coördination has been attained.

With these two above conditions we may conjointly treat with *anemia*. And here is where the automatic regulation of cellular activity is beautifully, wonderfully illustrated.

Could you ask for anything better or more satisfactory, than to actually witness an increase of red blood corpuscles inside of *twenty minutes after a treatment?*

Yes, you can ask for a continued increase over a greater period of time. And this you'll also see. For where the red blood corpuscles increase within twenty minutes, they also continue to increase for *at least* twelve hours. And this increased number does not diminish for forty-eight to fifty-six hours—without further treatment. Under treatments taken daily or even every other day, the red cell count *continues* to rise slightly. At times it strikes a level where it remains for a while before advancing again. As the condition improves, treatments may be had less often. It is fair to assume that after a reasonable period, according to the case, equilibrium will be established and the red cell count remain at a good healthy figure such as has been attained.

But the most remarkable feature of this procedure is that the *white blood corpuscles* are meanwhile a barometer of the system and its possible, often certain, invasion by bacteria of one kind or another.

If a severe bacterial conquest be on foot, the white cells are necessarily high (per count) in their attempt to digest and destroy the alien irritating forces. In a case of *Tuberculosis Pulmonalis*, a treatment through the lungs not only frees the congestion and aids resolution, but it most certainly has an immediately detrimental effect upon the invading bacilli. For the blood count taken *twenty minutes after the treatment* reveals a *decrease* in the white cells, and an already *increasing* number of red cells. The white cells may be then seen to constantly *decrease* over a period of at least *fifty-six hours without* further treatment, *while the red cells simultaneously increase.* And with the patient yielding a generally better history of temperature, expectoration, general sensations, etc., we may reasonably calculate that the bacilli are being attacked and diminished at a rather rapid rate.

Now let us observe the action of the *white* blood corpuscles in the *simply anemic* individual who reveals no disease symptoms contingent upon infectious causes.

Here the red blood corpuscles may be seen to rise immediately after the first treatment. But the white blood corpuscles, if they be rather low, will likewise rise in numbers.

Here then is a natural adjustment of the conditions of disease as well as that of a lowered or impoverished system, and all through the same method of treatment, employing exactly the same current in the same manner.

Now as to the white cells: It is generally recognized that white blood corpuscles are derived chiefly at least from the spleen. Yet their adjustment and increase in anaemic cases treated by the author have accompanied treatments where the current was directed between the spinal vertebrae and the skin of each leg in turn—or from the spine to the soles of the feet.

Likewise the red blood cells are presumed to be proliferated within the canals of the long bones. Yet they have risen in numbers even more rapidly when the chest alone was treated, such as in *tuberculosis*. Moreover, including only the kidneys, with necessarily a small portion of some of the lower ribs on the back, an immediate rise of white blood cells was apparent

at so short a time as twenty minutes after treatment. It was impossible to obtain another blood count for forty-eight hours. In this interval, however, no further treatment was given, when at the end of this lapse the white cells were found to be still well elevated and the red cells had meanwhile risen to a marked degree. They had risen despite the treatment of only soft portions of the body, including such organs as the kidneys, liver, stomach in part, and spleen, together with the intestines in portions coiled within the selected area. This is no less interesting than the next test, which was including the heart alone. Naturally the ribs and lungs are comprehended, but the ribs are not generally considered productive of red cell proliferation.

In the heart treatments, there was no advance in red cell count within sixty minutes after treatment, although the white cells showed an undoubtable elevation at this time. Reëxamination was impossible for four days, when the red blood corpuscles showed a decided elevation. White cells had remained practically as they had risen twenty minutes after the first treatment, no treatment intervening.

These tests all speak for permanency in effect. Where the white blood corpuscles rose, they were certainly lower than they should have been before they took the rise.

This much is quite obvious: In no wise can a treatment in any one or another portion of the body do any harm whatsoever. And fortunately, hit or miss, it would seem that the system accepts the treatment very kindly and responds in perfect accord.

The effect upon the heart is either negative or beneficial. If the valves are relaxed, it normalizes their muscular activity so that they close more perfectly. If they are overtoned and a condition of stenosis is present, the muscles inclined to overtonicity are rendered decidedly more natural in their functioning. In a heart with two lesions, often each opposite in character, there is no other treatment in extra pharmacal therapeutics which does not tend to aggravate the condition.

Surgery

Double and Anomalous Forms of Empyema.

K. A. J. MacKenzie reports in detail four of his own cases of double empyema which occurred during an epidemic of influenza in the Northwest in the year 1899. In all the cases either bilateral simultaneous thoracotomy or bilateral thoracotomy with a few days' interval between operations was done. Several interesting cases of anomalous forms of empyema are reported, including gunshot wounds, stab wounds, putrid empyemata following aspiration, and one case in which the paragonimus westermanii was the etiological factor. Thirty fully reported cases of double empyema are collected from the literature in all of which aspiration, incision and drainage, resection and drainage, or some combination of the three procedures was performed simultaneously or at intervals of 1 to 150 days.

In the 34 cases in which the ages varied between 13 weeks and 40 years, aspiration was performed 15 times on the right side and 12 times on the left.—(*Tr. Am. Surg. Ass.*, N. Y., April, 1914.—By *Surg., Gynec. & Obst.*)

Pulmonary Abscess and Bronchiectasis.

H. Lilienthal's paper presents his experience and the conclusions arrived at from the study of 12 cases with 14 operations on 11 of the patients.

There were 5 cases of bronchiectasis with various drainage operations followed by 4 "improvements" and 1 death; 3 acute abscesses of the lung with 2 cures; 1 extensive gangrene of the lung, died; 1 fetid bronchitis taken for bronchiectasis, died.

There is also the report of an unfinished case of bronchiectasis of the right lower lobe in a child 4 years old, with resection of the entire lobe—convalescence was well established at the date of the paper. The cause of the bronchiectasis was the aspiration of a piece of nut one year before, but in spite of the removal of the foreign body by bronchoscopy the suppuration continued.

The author calls attention to various details in diagnosis and technique, speaking strongly in favor of the more frequent pre-operative employment of the bronchoscope. The conclusions based solely on the cases in the paper are as follows:

1. The differential diagnosis of true lung abscess and suppurative bronchiectasis is important.
2. Radiographical study of each case is essential.
3. Bronchoscopical examination is a valuable procedure and should not be omitted.
4. Drainage of a lung abscess by thoracotomy is likely to result in cure.
5. Drainage of large infected bronchiectases may be followed by improvement, but complete recovery is unlikely.
6. Extensive thoracoplasty should be reserved for those cases in which other operations have failed.
7. Exploration of the pleural cavity and of the lungs by intercostal thoracotomy is feasible and reasonably safe.
8. Extirpation of a bronchiectasis by removal of the affected portion of the lung may lead to complete recovery, but the danger of the operation is great.
9. Artificial pneumothorax and Tuffier's extrapleural tamponade should be reserved for cases of pure tuberculosis.
10. Intratracheal insufflation is a simple, accurate, and safe method of securing differential pressure.
11. Operations involving one lung can be performed with inhalation anæsthesia.—(*Tr. Am. Surg. Ass.*, N. Y., April, 1914.—By *Surg., Gynec. & Obst.*)

Threadworms and Appendicitis.

Hugh Lett, of London, notes that, clinically, threadworms may be found in the appendix under different circumstances, which may be classified in the four following groups:—

1. Cases in which threadworms are present in the appendix without giving rise to any symptoms.
2. Cases in which the patient has never had an acute attack of pain associated with a rise of temperature, but there is pain from time to time in the right iliac fossa; it varies in nature, and may be stabbing or merely what is sometimes described as a grumbling, dull pain. Tenderness is absent or only very slight.
3. Cases which have acute attacks. The symptoms here are somewhat characteristic, and it is occasionally possible to make a diagnosis of "threadworm appendicitis." In a typical case, the pain comes on suddenly and is severe, the temperature may be high, vomiting is a frequent symptom at the beginning of the attack,

and the abdomen is very sensitive; at the same time, the rigidity is not so marked as is usual in the case of general peritonitis. An important feature in the differential diagnosis is that the pulse is no quicker than could be accounted for by the associated temperature, and that the child does not appear to be nearly so ill as is to be expected from the examination of the abdomen.

4. Cases in which the patient presents the typical features of the severe appendicitis.

The appendix may be gangrenous or perforated, and associated with an abscess or general peritonitis. In the vast majority of these cases, the presence of threadworms appears to be merely incidental.

That Still found threadworms in the appendix in 65.6 per cent. of his 38 cases, and that in 15.8 per cent. the appendix was the only part of the intestine where they could be found, suggests that the appendix may sometimes be the breeding ground of the threadworms. If this is so, it probably accounts for the difficulty met with in curing certain obstinate cases; for if their breeding ground is in the appendix, and particularly if the threadworms are collected at its distal end, the difficulty of eradicating them by ordinary means is obvious.

The immediate results of operation in the first three groups are excellent. In the fourth group, the prognosis depends on the condition found at the time of operation, and on the day of the attaek on which operation is performed, as in cases of appendicitis which are uncomplicated by the presence of threadworms.—(*Practitioner*, No. 551, 1914.

Skin Transplantation.

D. B. Phemister says there has been little advance during recent years in the field of usefulness of transplanted skin, but, as a result of the researches of Lexer, our ideas as to the relative value of the different types of transplants and of materials from different sources have been more definitely formulated. The type of graft indicated varies according to the location of the area to be covered, and as to whether or not a movable skin is desired. Epidermal grafts, cut according to the Thiersch method, are the most successful and best suited for the great majority of cases. They may be cut in the largest possible strips.

The preparation of the surface for receiving the grafts should vary according to the nature of the wound. If it is covered by healthy dry granulations, the grafts may be applied directly with almost no preliminary curettage However, if conditions are not just right, and this includes the bulk of cases, the entire surface should be curetted and careful hæmostasis obtained before the grafts are applied. The extravasated blood should be allowed to clot upon the surface, after which firm pressure is applied with gauze and the clot is forced out. This leaves behind a coat of fibrin upon which the grafts are applied, and to which they adhere firmly. The character of the dressing is of little importance, provided the operation is properly done, and the grafts are not too much disturbed. In case the wound is located about the face, and a movable skin is desired, the result is best obtained by transplantation of the entire thickness of the skin, including the subcutaneous fat. Because of the rich blood supply, such transplants take in the great majority of cases. Grafts including the entire thickness of the skin are more often successful if the subcutaneous fat is cut away, which can be done either at the time of or after their removal. However, they are firmly bound down and are more suitable for use about the hands, etc.

The source of the material is of much greater importance than was formerly supposed. According to Lexer, autoplastic grafts are the only ones in which the epidermis lives and forms a permanent covering for the area.

Heteroplastic transplantation is a failure. The grafts usually slough off shortly after their application. Davis has reported success with skin taken from young pups, and Bianchi and Fiorani with that from young chickens, but Lexer says it remains alive and attached only for a short time, after which it acts as a crust, under which healing occurs, but without the formation of any epithelial covering from the transplant.

Homoplastic transplantation has been the subject of a great deal of discussion. Thiersch, Garré, Enderlen and Karg have maintained that it is unsuccessful, while many others have reported success in a certain percentage of cases; J. S. Davis claims equally good results with autoplastic and homoplastic grafts. In recent years Lexer has performed a series of homoplastic transplantations and has arrived at the following conclusions:

1. Skin transplanted from one adult to another sloughs off in a short time.
2. Skin from a parent, brother or sister may take temporarily, but eventually sloughs off.
3. Skin from a fœtus may take and remain adherent, but undergoes necrosis, and is substituted by the ingrowth of fibrous tissue from beneath.

The course of homoplastic grafts may be any one of the following:

1. Acute necrosis with gangrene of the transplant. This is a very common result
2. The grafts take at first, but after one or two weeks are totally discarded with the formation of a layer of pus and granulations beneath.
3. The grafts take at first, but after three or four weeks undergo necrosis and dry gangrene, forming a thin, dry crust, beneath which healing occurs by scar formation.
4. The grafts take, and at the end of three or four weeks seem firmly fixed. Then areas of slight desquamation develop. Fibrous granulations now grow in and substitute the transplanted tissue without any appreciable amount being cast off. In no case was an epithelial covering for the area formed from the cells of the transplant. He explains the persistence of a pigmentation when negro skin is transplanted on to a white man on the ground that while the cells are rapidly absorbed, the pigment remains and is removed very slowly. These transplantations were controlled by microscopical examinations of excised portions, which add considerable to their value. Oshima, in Lexer's Clinic, has recently reported upon the histological examination of homoplastic grafts, including the entire thickness of the skin, both in man and in animals, and has found that while the grafts may become attached and live for two or three weeks, they eventually undergo necrosis and either are absorbed or slough off.—(*Surg., Gyn. and Obst.*, No. 4, 1914.)

Leg Dressings.

J. S. Davis, Baltimore (*J. A. M. A.*, April 4), has found a high-seated chair and corresponding heel-rest very convenient in applying dressing to the legs, thus avoiding much useless fatigue and discomfort to the surgeon that is experienced by him with the use of the common appliances. Dressings on other parts of the body may also be made easier by use of these devices.

Photograph reproduced by courtesy of Lieut. Howard Fox.

Back Row, reading from left to right: Lieuts. Stark, Slee, Baketel, Coe, Wilcox, Strong, Boyce, MacDonald, M. R. C. Front row: Lieut. Fox, M. R. C.; Major Persons, M. C.; Major Gilchrist, M. C.; Major Allen, M. C.

Medical Reserve Corps School of Instruction.

Fifteen officers of the Medical Reserve Corps, U. S. Army, attended a school of instruction at Tobyhanna, Pa., June 27-July 5, at the permanent camp of the Third U. S. Field Artillery. Through the courtesy of Major Charles P. Summerall of that regiment, all the privileges of the camp were extended the officers and his cordiality made the school of great value. The chief instructor was Major Harry L. Gilchrist of the Medical Corps, assisted by Major E. E. Persons, M. C., of the Army War College faculty, and Major John H. Allen, M. C., of Texas City. These officers are among the best known men in the Medical Corps and are teachers of a high order.

The program was as follows:

General Scope.—The line of instruction is to show the detail of preparing the sanitary personnel of the different units for the field—both the disciplining and educating of the hospital corps, the training of the medical officers, and the equipping with the regulation supplies and transportation. Finally, the position of the personnel and divisional sanitary units on the march and on the battlefield.

JUNE 27.

7:00 P M.—Address by Maj. Charles P. Summerall, commanding officer of Camp Tobyhanna.

JUNE 28.

9:00 A. M.—Inspection of Morning Routine at Camp Hospital, including Holding of Sick Call, etc. Major Allen.

10:00 A. M.—"Functions Assigned to and the Methods of Administration of the Sanitary Service in the Armies of the Great Powers." Major Persons.

11:00 A. M.—"History of the Medical Corps of the U. S. Army." Major Gilchrist.

JUNE 29.

Drill, 7:30 to 8:30 A. M.—School of the Soldier.

School, 9:00 to 9:50—Exhibition of Equipment of Regimental Aid Station and Administration of Methods. Major Allen.

School, 10:00 to 10:50—"The Field Medical Organization of the U. S. Army," illustrated. Major Gilchrist.

School, 2:00 to 2:50—"Scheme for the Relief of the Fighting Forces of the Non-effectives." Major Persons.

School, 3:00 to 4:00—"Enlistments; Authority, Examination of Recruits, Identification Records, Disposition, Designation and Notification." Major Gilchrist.

7:00 P. M.—Discussions.

JUNE 30.

Drill, 7:30 to 8:30 A. M.

Balance of the day was devoted to observing the work of the Artillery and discussions on Sanitary Service.

7:00 P. M.—Discussions.

JULY 1.

Drill, 7:30 to 8:30 A. M.

School, 10:00 to 10:50 A. M.—"Medical Service in the Lines of Communication." Major Persons.

School, 11:00 to 11:50 A. M.—"Equipping the Hospital Corps Enlisted man, including Clothing and Messing." Major Gilchrist.

School, 2:00 to 2:50 P. M.—"Duties of Non-Commissioned Officers Hospital Corps, Records of Patients, Reports of Sick and wounded. Sick and Wounded Card to be explained. Sick Call, its purposes, etc." Major Allen.

7:00 P. M.—Discussions.

July 2.

Drill, 7:30 to 8:30 A. M.

School, 9:00 to 9:50—Inspection of the Camp, including Kitchens, Incinerators, etc. Major Allen.

School, 10:00 to 10:50—"Methods by which the Enlisted Man Leaves the Service of the United States—Desertions, Discharges, etc." Major Gilchrist.

School, 11:00 to 11:50—"Sanitary Service at the Base." Major Persons.

School, 2:00 to 2:50 P. M.—"Military Correspondence." Major Gilchrist.

7:00 P. M. Discussions.

JULY 3.

Drill, 7:30 to 8:30 A. M.—Manual of the Saber for Officers. (Hosp. Corps Drill Regs., 1908, Par. 251-60). Major Gilchrist.

School, 10:00 to 10:50—"Sanitary Service in the Zones of the Interior." Major Persons.

School, 2:00 to 2:50—Map Conference. Major Gilchrist.

School, 3:00 to 3:50—"Some of the Important Forms all Medical Officers Should be Familiar With." Major Gilchrist.

7:00 P. M. Discussions.

JULY 4.

Drill, 7:30 to 8:30 A. M.—Ceremonies and Inspection. (Hosp. Corps Drill Regs., 1908, Par. 240-50). Major Gilchrist.

School, 9:00 to 9:50—"Property—How Obtained and Accounted For." Major Allen.

(*Continued on p.* 20.)

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For Infants of any age

Mellin's Food
4 level tablespoonfuls
Water (boiled, then cooled)
16 fluidounces

Give one to three ounces every hour or two, according to the age of the baby, continuing until stools lessen in number and improve in character.

Milk, preferably skimmed, may then be substituted for water—one ounce each day—until regular proportions of milk and water, adapted to the age of the baby, are reached.

(*Continued from p. 296.*)

School, 11:00 to 11:50—"Work of the Medical Reserve Corps in Peace and in War." Major Persons.

The work was of such a high order and the student officers received so much practical benefit that an effort will be made to have a more comprehensive course next year.

Commendable and Characteristic Action.

The Farbwerke-Hoechst Company, of New York, Congressman Herman A. Metz, president, American agents for salvarsan, neosalvarsan, pyramidon, novocain and the other products of the Farbwerke, of Hoechst-on-Main, Germany, has sent the following letter to physicians:

"Owing to the condition of affairs in Europe, it will be highly improbable that fresh supplies of Salvarsan and Neosalvarsan can be obtained. The orders received within the last few days, if shipped, would clear out our entire stock, and indicate that they are far in excess of immediate requirements.

"To avoid stocking up and jumping of prices and to do justice to physicians and patients, we have decided to distribute these products during the crisis direct to physicians at the usual retail prices as follows:

Neosalvarsan	No.	VI,	Salvarsan	0.6	gram.....	$3.50	per	ampule
"	"	V,	"	0.5	"	3.25	"	"
"	"	IV,	"	0.4	"	2.75	"	"
"	"	III,	"	0.3	"	2.25	"	"
"	"	II,	"	0.2	"	1.75	"	"
"	"	I,	"	0.1	"	1.10	"	"

"These prices are those heretofore established and rigidly adhered to by us. The retail prices reimburse us for the additional expense involved in this method of distribution, and will be strictly maintained in all cases except for charitable institutions for actual charity use, upon proper proof. The distribution of our other products will be made through the regular channels at the usual prices until further notice.

"We trust that physicians will apply for such quantities only as are necessary to continue treatment and for new cases urgently in need until definite information can be obtained as to further supplies.

"We are taking this drastic action on account of the outrageous conduct of certain speculators and to insure the proper care of the unfortunates in all parts of the country who are now under treatment.

"The method inconveniences physicians to a certain extent, but it will in turn enable them to do full justice to their clientele."

Aside from the information contained in the letter, two features are worthy of comment—the standing by the original price and the company's boldness in breaking away from the established custom.

There are certain human vultures always willing to fatten their purses at the expense of the unfortunate. Those people have in numerous instances of late charged physicians from $10 to $15 an ampule for salvarsan. Their attempt at cornering the market has been nipped in the bud by the characteristic action of Congressman Metz. Instead of profiting by an increase of price, he is maintaining old prices and is making it possible for physicians to get a supply of Salvarsan as long as his stock lasts. In his usual energetic and peculiarly Metzian way, the Congressman takes the bull by the horns and goes to the physicians direct, meanwhile, cautioning them to be economical in its use. That he will return to the usual method of selling his drugs upon the conclusion of hostilities is probable, but it is refreshing to observe that his firm refuses to profit by a war scare.

If every physician will exercise judgment and fairness in ordering goods from all the German houses. the supply of those many excellent drugs, will, we trust, last until Germany is ready to send further supplies.

The Physician's Library

Collected Papers by the Staff of St. Mary's Hospital (Mayo Clinic) for 1913. Cloth, 819 pages, 335 illustrations. $5.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

This volume contains 78 articles by 28 members of St. Mary's staff and they are divided under the general headings: Alimentary Canal; Urinogenital Organs; Ductless Glands; Head, Trunk and Extremities; Technic and General Papers. Most of these papers have already appeared in different medical journals, but the publishers are doing a real service by preserving in permanent form this valuable material. In no institution in the country is better work being done than at St. Mary's and the value of giving the profession the findings of its staff in book form is at once apparent.

Infantile Paralysis. By Henry W. Frauenthal, M. D. of the New York Hospital for Deformities and Joint Diseases. Cloth. 374 pages. $3.00 net. Philadelphia: F. A. Davis Co., 1914.

The causes, pathology, symptomatology, diagnosis, prognosis, prophylaxis and treatment of poliomyelitis are discussed in this volume, as well as physico-therapy, including electricity, massage, therapeutic exercises and mechanotherapy.

The subject is exhaustively covered and is presented in an interesting form. The book is well printed and not the least reliable feature is the profusion of clear illustrations.

Clinical Hematology: An Introduction to the Clinical Study of the So-called Blood Diseases and of Allied Disorders. By Gordon R. Ward, M. D., Fellow the Royal Society of Medicine, of London, etc. Cloth. 394 pages, illustrated. $3.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

A useful clinical study of blood diseases is well presented in this volume. It classifies the diseases, explains the anatomy and physiology of the blood making organs, tells how to make a blood count, and then discusses the various diseases in which the blood plays an etiological part, particular attention being paid to the action of the blood making organs in each condition. Treatment is not neglected. The text is instructive and it is aided by some excellent plates.

Serology of Nervous and Mental Diseases. By D. M. Kaplan, M. D., Director of Clinical and Research Laboratories of the Neurological Institute, New York City. Cloth. 346 pages, illustrated. $3.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

The commanding position serology has assumed in our therapy the past few years is sufficient warrant for this book and a really valuable volume it is. The four parts are devoted to technology, serology of nervous and mental diseases of nonluetic etiology; serology of nervous and mental diseases of luetic origin; theropeutic use of salvarsan. Each subject is thoroughly handled. A feature of the book is a 70-page index of all the foreign and domestic literature on the various topics treated in the book. The serologist will find within these pages a clear and concise exposition of serology as it effects nervous and mental diseases.

(*Continued on p. 22.*)

IN THE SUMMER FEEDING OF YOUNG INFANTS

the safest and most satisfactory substitute for mother's milk is **Trommer Malt Soup.** Unfortunately, too little attention has been paid in the past to the diastasic ferment and carbohydrates that are found in human milk and which play such an important part in infant nutrition. In fact most artificial infant foods contain no diastase whatsoever. It is not surprising, therefore, that the use of these foods is so often followed by malnutrition.

To those who have realized, however, the importance of diastase in the artificial feeding of infants **Trommer Malt Soup** has solved the problem. Easily made with

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DIASTASIC MALT EXTRACT

many a physician has learned during the past forty years to turn to this standard extract of malt when confronted by the necessity of providing a safe and suitable diet for infants denied their mother's milk.

The simplicity and convenience of the food thus produced not only make it especially appealing but it is so easily and quickly prepared that the amount required for each feeding can be made up as needed, thus avoiding the dangers of contamination that always menace the food that must be kept standing.

Babies placed on **Trommer Malt Soup** do splendidly and the gain in weight, vitality and strength leaves nothing to be desired. The effect on the alimentary processes is particularly gratifying and it is a notable fact that infants fed with this food are remarkably free from digestive disturbance. This naturally suggests the use of this food during the heated season, and summer diarrhea rarely afflicts infants thus nourished.

It is a fact of no little significance that medical men who once commence the use of **Trommer Malt Extract** in the modification ofcows' milk rarely if ever return to any other food. The results obtained make it entirely unnecessary.

Send for valuable booklet on *The Use of Malt Soup in Infant Feeding.*

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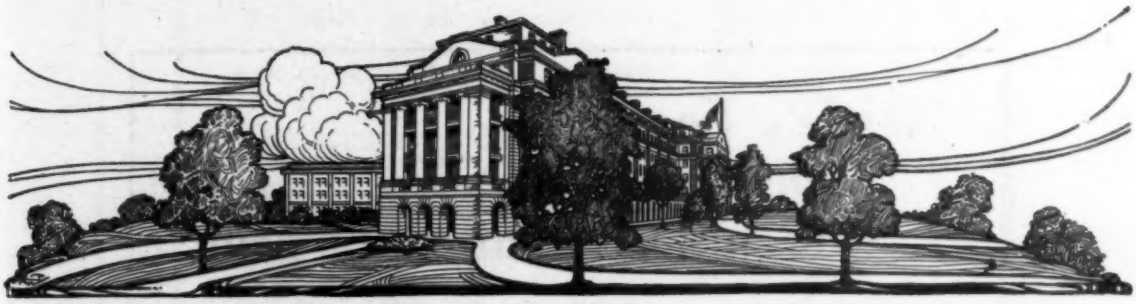

The Battle Creek Sanitarium is an institution for the treatment of chronic invalids. Incorporated 1876; reincorporated 1898; erected and equipped at a cost of $2,000,000; non-profit paying; exempt from taxation under the laws of Michigan; employs 300 nurses and trained attendants and 600 other employees.

The institution has a faculty of 30 physicians, all of good and regular standing, and has treated over 89,000 patients, among whom are nearly 2,000 physicians and more than 5,000 members of physicians' families.

Any physician who desires to visit the Sanitarium will receive, on application, a visiting guest's ticket good for three days' board and lodging in the institution. No charge is made for treatment or professional services to physicians.

Send for a copy of a profusely illustrated book of 229 pages, entitled, "The Battle Creek Sanitarium System," prepared especially for members of the medical profession.

THE BATTLE CREEK SANITARIUM, BATTLE CREEK, MICH.

(*Continued from p. 20.*)

Bacteriology for Nurses. By Isabel McIsaac, R. N. Cloth, 178 pages, illustrated. $1.25. New York: Macmillan Company, 1914.

This is a useful book for nurses, as it presents the subject as fully as they need and with a very clear demonstration of bacteriologic fundamentals.

A History of Laryngology and Rhinology. By Jonathan Wright, M. D., Director of the Department of Laboratories, New York Post-Graduate Medical School and Hospital. Second edition, revised and enlarged. Octavo, 357 pages, illustrated. Cloth, $4 net. Philadelphia and New York: Lea & Febiger, 1914.

A book of great value is presented here. The author has wandered from the beaten paths of special medical book writing and has delved into the history of nose and throat diseases, with happy results for the reader. The careful perusal of this volume will enlarge the reader's view point and give him a better perspective of all branches of medicine. The author shows himself to be a litterateur and a historian. Beginning with Egyptian medicine, and continuing until the advent of modern procedures, Dr. Wright has given the reader a story full of entertainment and historic interest.

Blood Pressure in Medicine and Surgery. By Edward H. Goodman, M. D., Associate in Medicine in the University of Pennsylvania. Cloth, 226 pages, illustrated. $1.50 net. Philadelphia and New York: Lea & Febiger, 1914.

A thorough knowledge of blood pressure and what it signifies is absolutely essential to the well equipped physician. This book covers the field authoritatively. It discusses Hypertension and Hypotension; Blood Pressure in Cardiovascular, Renal, Infectious and Nervous Diseases; Blood pressure in Obstetrics and in Surgery, Blood Pressure in the Gastro-intestinal tract and the Internal Secretory Glands and in Ophthalmology. The Effect of Drugs and other Therapeutic Measures on Blood Pressure and on the treatment of Hypertension and Hypotension. The book is worth while.

Diseases of the Heart. By John Cowan, M. D., F. R. F. P. S., Professor of Medicine, Anderson's College Medical School; Lecturer in Clinical Medicine in the University of Glasgow. Cloth, 458 pages, with 199 illustrations. $4.00 net. Philadelphia and New York: Lea & Febiger, 1914.

This is a critical review of the entire subject of heart diseases, with diagnosis, prognosis and treatment. In addition the various instruments of precision are described and their uses clearly shown. The author's wide experience in this field makes him an authority, well worthy of emulation. He has presented one of the best books on the subject which has come to the author's attention.

BOOKS RECEIVED.

A Treatise on Clinical Medicine. By William Hanna Thomson. M. D., LL. D., formerly Professor of Practice of Medicine and of Diseases of the Nervous System in the New York University Medical Col-

(*Continued on p. 25.*)

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confirmed by the evidence of physiological chemists, dieteticians and physicians, teaches us that baking powders containing alum should not be used. It is in evidence that soluble salts of aluminum in quantity to retard digestion are formed in the food or in the stomachs of those who eat breadstuffs made with alum powder.

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SEPTEMBER CLINICS, DEPARTMENT OF PUBLIC CHARITIES.

MONDAYS.

City Hospital—		
Dermatology and Syphilis	Dr. Gottheil	3:00 P.M.

TUESDAYS.

Neurological Hospital—		
Neurology	Dr. Byrne	9:00 A.M.
Kings County Hospital—		
Surgery	Dr. Bogart	9:00 A.M.
Obstetrics	Dr. Commiskey	10:00 A.M.
Genitourinary Surgery	Dr. Fraser	2:00 P.M.
Coney Island Hospital—		
Surgery	Drs. Fiske and Bogart	10:30 A.M.
Surgery	Drs. Murphy and Lack	10:30 A.M.
Medicine	Drs. Hall and Nash	3:30 P.M.
Medicine	Drs. Hegeman and Byington	3:30 P.M.

WEDNESDAYS.

City Hospital—		
Obstetrics	Dr. Shears	2:00 P.M.
Neurological Hospital—		
Neurology	Dr. Maloney	10:00 A.M.
Kings County Hospital—		
Orthopedics	Dr. Truslow	10:00 A.M.
Orthopedics	Dr. Napier	4:00 P.M.
Coney Island Hospital—		
Pediatrics	Drs. Beck and McQuillan	3:00 P.M.
Pediatrics	Drs. Pendleton and Van Wart.	3:00 P.M.

THURSDAYS.

City Hospital—		
Gynecology	Dr. Child	2:00 P.M.
Kings County Hospital—		
Surgery	Dr. Bogart	9:00 A.M.
Obstetrics	Dr. Commiskey	10:00 A.M.
Otology	Dr. Alderton	1:00 P.M.
Coney Island Hospital—		
Gynecology	Drs. MacEvitt and Mills	1:30 P.M.
Gynecology	Drs. Mayne and Rankin	1:30 P.M.
Rhinology and Laryngology	Dr. Tucker	1:30 P.M.
Surgery	Drs. Fiske and Bogart	3:00 P.M.
Surgery	Drs. Murphy and Lack	3:00 P.M.

FRIDAYS.

City Hospital—		
Laryngology and Otology	Dr. Dougherty	2:00 P.M.
Dermatology and Syphilis	Dr. Gottheil	3:00 P.M.

SATURDAYS.

Neurological Hospital—		
Neurology	Dr. Walsh	2:00 P.M.
Kings County Hospital—		
Surgery	Dr. Bogart	9:00 A.M.
Obstetrics	Dr. Commiskey	10:00 A.M.
Gynecology	Dr. McNamara	1:30 P.M.

Cancer of the Splenic Flexure.

Two cases of cancer of the splenic flexure of the large intestine are reported by P. E. Truesdale, Fall River, Mass. (*J. A. M. A.*, April 25). He remarks on the rarity of cancer in this location, its slow development and late metastases. The lymphatic glands of the region are so related that the conditions for the spread of carcinoma are not favorable, and the statistics of Madeling and Mayo would indicate that the results of operation are rather more favorable than in cases of cancer in other localities. In each of Truesdale's two cases a resection of the splenic flexure was made and in both cases relief was obtained, though in one case there is evidence of recurrence of cancer in the cervix uteri a year later.

Announcement!

THE CHARLES B. TOWNS HOSPITAL

for the Treatment of Drug Addiction and Alcoholism

Formerly on West 81st Street
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which property has been acquired by purchase. This modern building is designed for a select private hospital, is perfectly located, splendidly planned, fully equipped and is provided with single rooms for patients of moderate means and with rooms *en suite* for those desiring such accommodations.

Physicians are invited to inspect the new Hospital where every courtesy and attention will be shown them.

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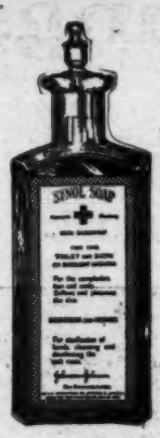
Cleaned with Soap—Sterilized with a Germicide



Whether for the surgeon's hands, the nurse's hands or the patient's skin in surgery, or for preventing the transference of bacteria in infectious disease, the acknowledged modern idea can be summed up in the above words.

Synol Liquid Soap combines in itself an unusual degree of dirt-emulsifying action, with the powerful germ-killing properties of the coal-tar derivatives.

The ingredients of Synol Soap are so proportioned in relation to one another that corrosive action is eliminated with no impairment of either the cleansing action of the soap or the germicidal properties of the cresols.

It is also a very good thing for the physician to prescribe for use among laymen around the home, the shop and the farm, as it cleanses and disinfects in one operation all kinds of cuts, abrasions and such common injuries. Its germicidal strength has been accurately determined; its cleansing properties are self-evident. A sample upon request.

Johnson & Johnson

NEW BRUNSWICK, N. J., U. S. A.

(*Continued from p. 22.*)

lege. Ex-President of the New York Academy of Medicine. 667 pages. Cloth, $5.00, half morocco, $6.50. Published 1914 by W. B. Saunders Co., Philadelphia and London.

Psychology and Mental Disease. By C. B. Burr, M. D., Medical Director of Oak Grove Hospital for Mental and Nervous Diseases formerly Medical Superintendent of the Eastern Michigan Asylum, etc. 235 pages. Cloth $1.50. Published in 1914 by F. A. Davis Company. Philadelphia.

Practical Pediatrics. By James Herbert McKee, M. D., Professor of Pediatrics, Temple University, Philadelphia, and William H. Wells, M. D., Asst. Professor of Obstetrics, Jefferson Medical College. With a supplement upon development and its anomalies. By John Madison Taylor, M. D., Associate Professor of non-Pharmaceutic Therapeutics, Temple University, Philadelphia. Two volumes, 1182 pages. Illustrated. Cloth, $12.00. Published by P. Blakiston's Son & Co., Philadelphia.

Practice of Surgery. By James G. Mumford, M. D., Lecturer on Surgery in Harvard University. Second edition, thoroughly revised. 1032 pages, illustrated. Cloth, $7.00, half morocco, $8.50. Published in 1914 by W. B. Saunders Company, Philadelphia and London.

An impending suppuration is indicated by an increasing leukocytosis.

Typhoid fever, mumps and measles do not show any leukocytosis.

The Treatment of Auto-intoxication.

The painstaking physician has but to observe the effect of Burnham's Soluble Iodine in a case of auto-intoxication to realize that in this systemic eliminant the medical profession has a remedy that can be relied upon to free the system from its metabolic ash. The cells are stimulated to increased activity, a proper balance in respect to repair and waste is established, accumulated refuse is thrown out into the main drainage channels, and the emunctories—waste outlets—respond to the work placed upon them. In brief, in cases of waste retention, Burnham's Soluble Iodine furnishes the exact impetus or stimulation needed to enable the cells, tissues and organs to "clean house" and maintain the proper elimination of the effete products of metabolism. It has a unique utility in this direction, a utility that every clinician will grow to appreciate as his experience with this remedy extends, and he observes not alone its therapeutic dependability, but its notable freedom from those drawbacks that in the past have so generally restricted the use of iodine, the one great specific for auto-intoxication.

In these cases Burnham's Soluble Iodine should be given 6 to 10 minims well diluted, t. i. d. and at bedtime each day some mild laxative like cascara sagrada or phenolphthalein to insure one or two movements daily from the bowels. The results that follow are as gratifying as they are pronounced.

The syphilophobic patient is a terror to his physician, though he is less often mentally affected than the phtheiriophobic.

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New York PHILADELPHIA St. Louis

Endoscopic Galvano-Cautery.

H. M. Young, St. Louis (*J. A. M. A.*, April 4), describes and illustrates an apparatus for operations on the moderately hypertrophied prostate. It consists of a Braasch direct-vision cystoscope for which operating windows have been made for the introduction of the cauteries. The cauteries are made in two forms, the cautery knife and the cautery curet. They are to be used under water and must be absolutely water-proof to avoid short-circuiting and should therefore be carefully tested before use, the method of which is described. He believes that the use of this method has advantages over the present methods of operating, the only technical difficulty is the proper heating of the cauteries under water; they, of course, must never be exposed to the current while in the air as they will then fuse instantly.

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In view of the number of Americans who are delayed in London and to whom sickness might work a hardship, the H. K. Mulford Company have cabled their London office to supply biological preparations and specialties of their manufacture free of charge.

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Oxygen in Eclampsia.

Schwab suggests the administration of oxygen in severe eclampsia through a rubber catheter introduced into the trachea through a tube down to its bifurcation. He bases his suggestion on the observation that intoxication with carbonic acid gas is one of the principal dangers in eclampsia and that the undisturbed and permanent access of oxygen to the respiratory passages through the tracheotomy tube is more efficacious than the mechanical artificial respirations so ofen employed. —(*Zentralbl. f. Syn.*, June 1, 1913.)

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The Phylacogen Treatment of Hay Fever.

While Mixed Infection Phylacogen was formally introduced to the medical profession in 1912, it was some months later before adequate data as to its value in the treatment of hay fever were available. In 1913 hundreds of cases were reported, details of many of them appearing in the medical press during the latter months of that year. The results from these clinical observations were highly significant, showing a surprisingly large percentage of recoveries and warranting the belief that in Mixed Infection Phylacogen the physician had acquired a formidable weapon for his fight with one of the most stubborn diseases that he is called upon to treat.

Mixed Infection Phylacogen is administered hypodermatically. The initial dose should be small, the usual procedure being to begin with a 2-Cc. dose subcutaneously or a ½-Cc. dose intravenously. The reactions occur more quickly, and are ordinarily more severe, following intravenous injection.

"In giving the subcutaneous injection," one writer explains, "I usually select as a site the insertion of the deltoid or the area just below the scapula. The latter seems to be the ideal spot, as absorption takes place very readily and the complaints from the local reaction are much less. I repeat my injection either daily or on alternate days, the interval to be determined by the clinical condition of the patient. It is seldom necessary to administer more than four to six injections, the symptoms often disappearing after the second or third injection. Almost immediate relief is noted by the patient. The irritating discharges from the eyes and nose are diminished in amount, the sneezing is lessened, the dyspnea is relieved, and the patient usually sleeps comfortably. All patients that I have treated successfully have remained well through the season. I have yet to record a failure, but I have not had a sufficient number of this class of cases as yet to warrant a positive claim that this remedy will act in all forms of this disease."

Mixed Infection Phylacogen is supplied in 10-Cc. bulbs. As is doubtless well known to most physicians, it is a Parke, Davis & Co. product.

The Feeding of Infants in Diarrhea.

As it is generally accepted that milk should not be given during the acute stages of diarrhea, it is necessary to select some diet other than milk that will furnish enough easily assimilated nourishment to carry the baby through the critical period. The form of this nutrition should also be such as to prevent the destruction of the body proteins; otherwise, the baby patient is likely to undergo starvation to such an extent that the chances of recovery are much lessened. A diet of Mellin's Food and water meets these requirements in an effective and satisfactory manner.

Maltose, the predominating carbohydrate in Mellin's Food, is a protein-sparer, and this, together with the amount of soluble proteins and the total food value in the mixture of Mellin's Food and water, is a safeguard against prostration—so much feared in cases of infantile diarrhea.

Mellin's Food is much to be preferred to barley or other cereal gruels, as it is not only free from starch, but contains ample nourishment and of the right kind, available for immediate assimilation.

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The Death Rate of the United States for 1913.

The death rate of the registration area of the United States in 1913 was 14.1 per 1,000 estimated population, according to a statement made public by Director William J. Harris, of the Bureau of the Census, Department of Commerce. This statement was prepared under the supervision of Dr. Cressy L. Wilbur, of the division of vital statistics. This figure of 14.1 as the death rate for 1913 was based on 890,823 deaths returned from 24 registration states, the District of Columbia, and 41 cities in nonregistration states. The total population included in the registration areas reporting is 63,299,164, or 65.1 per cent. of the estimated population of the United States. While the figures are not complete for the entire country, they serve as an index to the general sanitary condition of the United States.

The death rate for 1913 (14.1 per 1,000) slightly exceeded that for 1912, which was 13.9, but was less than that for 1911, which was 14.2. It also is markedly lower than the average rate for the 5-year period 1901-1905, which was 16.2. The decrease in the death rate amounts to 13 per cent, or to a reduction of about 1 death in every 8, during the interval of 10 years. Allowing for changes made in the registration area during this time (much new territory has been added), when comparison is made of the rates shown for 1913 and for 1901 to 1905, with the same group of registration states, there is still a considerable decrease shown (7.5 per cent.). If the same death rate had prevailed in the registration area in 1913 as prevailed in the annual average for the years 1901-1905, there would have been 1,025,446 deaths recorded instead of 890,823, an excess of 134,623 over the number recorded in 1913. In the original group of registration states as constituted in 1901-1905, the population of which is about one-fourth of the total population of the United States, the reduction in mortality would have been equivalent to a saving of 30,546 lives in 1913 that would have been lost if the former rate of mortality had continued.

A table issued by the department shows the death rate for the past three years separately, and for the consecutive 5-year periods 1901 to 1905 and 1906 to 1910. The areas shown are the registration states and cities of 100,000 population and over, and color is distinguished for cities with a considerable colored population.

Among the states for which the death rates for 1901 to 1905 are given, the largest percentage of decrease was shown for Rhode Island (15.7), followed by New York (12.3), New Jersey (11.2), and Massachusetts (9.6). Slightly increased death rates for 1913 are shown for Michigan (4.5), New Hampshire (3), and Indiana (0.8). These increases may be due in some cases to increased accuracy of registration of deaths during 1913 as compared with the earlier period.

Among the cities of 100,000 population and over, the variation shown in the death rates covers a wide range. In general the tendency seems to be to a lower mortality. The following cities show a reduction of 20 per cent. or more from 1901-1905 to 1913, or an average of 2 per cent. or more for each year of the past decade.

New York, 24.7; Jersey City, 24.4; Newark, N. J., 23; San Francisco, 21.7; Lowell, Mass., 21.3; Spokane, Wash., 21.2; Denver, Colo., 20.3, and Paterson, N. J., 20.1.

Relation of Time of Day to Mortality.

Billing of London has analyzed 10,000 deaths in a London hospital going over a period of 1899-1913. He divided the 24 hours into two periods, from 8 a. m. to 8 p. m., when the deaths were 49.91 per cent., and from 8 p. m. to 8 a. m., when the number was 50.09 per cent., a difference so small as to be negligible. To ascertain more fully the variation of mortality with the time of day, he divided the 24 hours into six periods of four hours, beginning at 11 p. m., with the following result:

	Mortality per cent.
11 p.m.— 3 a.m.	17.06
3 a.m.— 7 a.m.	17.03
7 a.m.—11 a.m.	15.15
11 a.m.— 3 p.m.	17.54
3 p.m.— 7 p.m.	16.83
7 p.m.—11 p.m.	16.39

Here the average is 16.66 deaths in every four hours.

On examining the figures, it appears that the mortality between the hours of 11 p. m. and 7 a. m. is slightly above the average; after this time, there is a distinct fall to a minimum of 15.15 between 7 a. m. and 11 a. m., followed by a rise in the afternoon to 17.54, the highest of the series. There is then a steady fall until 11 p. m., when the numbers rise again. The variations are well shown on the accompanying chart, where the two-hourly mortality is given. It therefore appears that the most fatal time is the early part of the afternoon, not the early morning, as usually stated, although the mortality is higher than the average at that time also, while the most vital period is that of the morning, from 7-11 a. m. From these figures we may conclude:

1. The time of day or night has a slight but distinct influence on the mortality.

2. There is no appreciable difference between the diurnal and nocturnal mortality.

3. The most fatal hours are those of the early afternoon, and next, those of the early morning.

4. The least fatal hours are those from 7-11 a. m.—(*The Practitioner*, No. 3, 1914.)

Bladder Suture Four Years After Operation.

Judd describes the appearance of the bladder four years after operation (*J. A. M. A.*). There were no adhesions along the suture line. Careful search revealed no trace of the continuous silk suture which was used.

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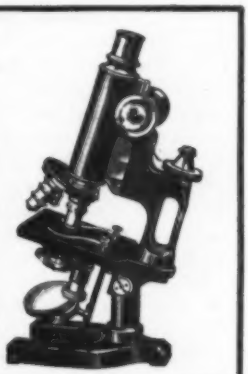

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Absorbable Fracture Plates.

A. McGlannan, Baltimore, describes an absorbable bone fracture plate devised by him, and reports a case in which it had been used for fixation of the fractured tibia, which he thinks is one of the severest tests for any kind of plate thus used. On the twenty-first day the plate was felt *in situ*, but at the next dressing ten days later it was felt loose, the bone pegs having been absorbed. It was easily removed through a small opening, and an illustration is given showing the amount of absorption. While he thinks the plate was needlessly thick, the results showed that absorption would occur and he thinks that a similar plate would be retained long enough to also immobilize for sufficient time a deeply placed fractured bone like the femur.—(*J. A. M. A.*)

Pluto Water in Treatment of Dyspepsia.

Pluto Water has always proven satisfactory in the treatment of the various forms of dyspepsia, chronic intestinal stasis and obstinate gastro-intestinal disturbances, for they promptly respond to a therapeutic regimen which includes the daily use of this native mineral water. The evidence of a large number of physicians conclusively proves that it is well tolerated by the stomach, causes no griping or intestinal irritation, is uniformly dependable in action and gratifying in results. Samples, clinical data, analysis and literature interestingly descriptive, of the hygienic methods employed in bottling Pluto, will be promptly forwarded on application to the French Lick Springs Hotel Co., French Lick, Indiana.

The Myringoscope.

G. G. Carroll, Rochester, N. Y., publishes an illustration of this instrument, which he thus describes: "This instrument consists of a cylinder, one end of which is closed, and at the other end is fitted any one of three sizes of specula depending on the caliber of the external canal of the ear to be examined. On one side of the cylinder there is a round window with a magnifying lens, while inside and opposite the round window is a plain mirror at approximately an angle of 45 degrees. Inside the cylinder is attached a tungsten lamp lighted by a 2½-volt dry battery, or it can be lighted by any other rheostat or controller desired. There is also attached to the cylinder an auscultation tube." The method of using the instrument is described. So far as Carroll knows it is new for the study of the potency of the eustachian tube, inflation of the tympanum and the study of its excursion from inside air pressure, as compared with the Siegel otoscope findings from without.—(*J. A. M. A.*)

Operations in Private Houses.

J. C. Hirst, Philadelphia, holds that it is perfectly feasible to make satisfactory arrangements in private houses for operations. An abdominal operation is, of course, more easily done in a hospital, but it can be done in a home with careful preparation. Ordinary operations, especially those of repair of injuries at child birth, are satisfactorily done in a private house. A trained surgical nurse is desirable, but not absolutely essential if the surgeon can instruct an intelligent attendant and attend to such details as catheterization himself.—(*J. A. M. A.*)